

JOURNAL OF THE CHEMICAL SOCIETY

---

# Dalton Transactions

---

A journal of inorganic chemistry

1985



ROYAL SOCIETY OF CHEMISTRY

© The Royal Society of Chemistry, 1985. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form, or by any means, electronic, mechanical, photographic, recording, or otherwise, without the prior permission of the publishers.

Printed in Great Britain by  
Richard Clay (The Chaucer Press) Ltd.,  
Bungay, Suffolk

## AUTHOR INDEX

- Abdullah, Mohammed, 2085  
 Abel, Edward W., 345, 1561, 1569, 2195  
 Abrams, Gillian, 2203  
 Agarwala, Umesh C., 2449  
 Aggarwal, Aneel, 795  
 Ahmad, Naseer, 2547  
 Ahmeti, Xhavit, 1095  
 Aime, S., 225  
 Ainscough, Eric W., 151  
 Airoldi, Claudio, 369, 1103  
 Akid, Robert, 395  
 Akitt, J. W., 591  
 Al-Baker, Salam, 1387, 2655  
 Al-Hamoud, Saud A. Aziz, 749  
 Al-Salih, Talib I., 1255  
 Al-Wassil, Abdul-Aziz I., 1929  
 Albano, Vincenzo G., 35, 1137, 1309  
 Alberts, Albert H., 2311  
 Alcock, Nathaniel W., 219, 517, 1001, 1361, 1997, 2683  
 Ali, Hapipah Mohd., 1131  
 Allen, David W., 2505  
 Allen, Stephen R., 435  
 Alonso, José Antonio, 1633, 2225  
 Alonzo, Giuseppe, 523  
 Alt, Helmut G., 1365  
 Anderson, Susan, 2247  
 Andrews, Steven J., 1645  
 Andriollo, Antida, 1859  
 Anhaus, Jens, 2453  
 Antal, Károly, 1191  
 Aoyagi, Kimitake, 1733  
 Araki, Koji, 373  
 Arce, Alejo J., 2479  
 Areán, Carlos Otero, 2155  
 Aroney, Manuel J., 1761  
 Ašperger, Smiljko, 1095  
 Asakawa, Miaki, 101, 107  
 Ascenzi, Paolo, 1107, 1113  
 Ashmawy, Fathy M., 1391  
 Ashok, Rajan F. N., 2449  
 Aspinall, Helen C., 743  
 Astheimer, Harald, 315  
 Atassi, Ghanem, 523  
 Attali, Serge, 2521  
 Audisio, Guido, 1547  
 Awang, M. Rasol, 2009  
 Bányai, István, 1191  
 Baggott, James E., 2247  
 Bailey, Neil A., 1471  
 Bailey, Stuart I., 1747  
 Baiocchi, Claudio, 2615  
 Baird, Gordon J., 1479  
 Baird, Michael C., 2691  
 Bajaj, Hari C., 2603  
 Bakhmutov, Vladimir I., 17  
 Baldwin, David A., 1613  
 Bales, John R., 795  
 Balt, Sijbe, 659, 1495, 2223  
 Baños, Joaquin, 1975  
 Bandy, Judith A., 2025, 2037  
 Bandyopadhyay, Deb Kumar, 159  
 Banford, Jon, 1355  
 Baral, Subhash, 2213  
 Barbier, Jean-Pierre, 597  
 Brunieri, Renato, 523  
 Bard, Allen J., 1303  
 Barr, Robert D., 2009  
 Barratt, David S., 135, 2661  
 Barrett, Jack, 2085  
 Basato, Marino, 91  
 Bashkin, Jim, 423  
 Bataille, Michel, 535, 1201  
 Batchelor, Raymond J., 1727  
 Batley, Graeme E., 1967  
 Bats, Jan W., 1, 2453  
 Bau, Robert, 2051  
 Baumann, Nikolaus, 223  
 Baxter, Paul L., 807, 941  
 Beck, Mihály T., 1191, 1669  
 Beckett, Michael A., 1119  
 Beevor, Robert G., 435  
 Begley, Michael J., 2433  
 Belikov, Vasili M., 17  
 Belokon', Yuri N., 17  
 Bender, Robert, 711  
 Benson, Christopher G., 2661  
 Berardelli, Maria L., 1737  
 Beringhelli, Tiziana, 1507, 1899  
 Berry, Frank J., 451  
 Bethell, Donald, 1405  
 Betterton, Eric A., 1613, 1619  
 Bhargava, Suresh K., 345, 1561  
 Bhattacharjee, Manabendra N., 409  
 Bigoli, Francesco, 1349  
 Birchall, Thomas, 1275, 1727, 2671  
 Blagg, Adrian, 1213  
 Blair, Peter D., 755  
 Blake, Antony B., 2509  
 Blandamer, Michael J., 867  
 Blaschke, Günther, 827  
 Blonk, Henk L., 1699  
 Blower, Philip J., 1533, 2305, 2639, 2647  
 Boddington, Terrence, 1213  
 Boden, Peter J., 2551  
 Boeyens, Jan C. A., 2277  
 Borish, Edward T., 1789  
 Botsivali, Maria, 1147  
 Bottomley, Frank, 1435, 2427  
 Bould, Jonathan, 1843  
 Bousseau, Michèle, 783  
 Bouwman, Elisabeth, 737  
 Bowman, Karen, 857  
 Boyar, Esther B., 617, 621, 629, 2113  
 Braga, Dario, 35, 1137, 1309, 1795  
 Brant, Patrick, 269  
 Braterman, P. S., 1081  
 Braunstein, Pierre, 711  
 Briant, Clive E., 851, 1693, 2343  
 Briggs, T. Nigel, 1249  
 Brint, Paul, 1915, 2591  
 Brisdon, Brian J., 2191  
 Brničević, Nevenka, 455, 1531  
 Broadley, Karen, 777  
 Brodie, Andrew M., 151  
 Brookhart, Maurice, 423  
 Brown, David, 1001, 1853  
 Brown, David B., 2319  
 Brown, Michael P., 2421  
 Brown, Paul L., 723, 1967  
 Bruce, Michael I., 1223, 1229  
 Brunori, Maurizio, 1107, 1113  
 Bruque, Sebastián, 213  
 Bünzli, Jean-Claude G., 885  
 Burgess, John, 867  
 Burgess, Kevin, 85  
 Burgos, Francisco Sánchez, 31  
 Byers, Peter K., 981, 1183  
 Cabeza, Javier A., 573  
 Calderazzo, Fausto, 1989  
 Calvaruso, Giuseppe, 1683  
 Camellini, Marisa Tiripicchio, 1487  
 Cameron, Alan D., 2691  
 Cameron, T. Stanley, 345  
 Campbell, Nicholas J., 1673  
 Canovese, Luciano, 27, 731  
 Canty, Allan J., 981, 1183  
 Carbone, Antonio I., 1683  
 Cardin, Christine J., 1527  
 Carl, Lothar, 523  
 Carlsen, Lars, 879  
 Carmona-Guzmán, M. Carmen, 1975  
 Carmona, Daniel, 973  
 Carr, Stuart W., 1213, 2131  
 Carriedo, Gabino A., 905  
 Carvalho, N. N., 2079  
 Cassoux, Patrick, 783  
 Castellani, Manola, 1989  
 Castro, Alicia, 2225  
 Cattalini, Lucio, 27, 731, 2091  
 Cavasino, F. Paolo, 1683  
 Cayuelas, José A., 1163  
 Cenini, Sergio, 163  
 Chagas, Aécio P., 1103  
 Chakravorty, Animesh, 159, 361  
 Chatt, Joseph, 1131  
 Chaudhuri, Mihir K., 409  
 Chaudret, Bruno, 43  
 Chauhan, Virendra B. S., 2449  
 Cheeseman, Paul G., 2551  
 Chemical, Susan M., 1613, 1619  
 Chen, Grace S. H., 9  
 Chessa, Gavino, 2091  
 Chicote, Maria T., 1163  
 Chiesa, Anna, 1971  
 Chini, Paolo, 35  
 Chung, Chung-Sun, 2217  
 Ciampolini, Mario, 479, 1179, 1425  
 Ciani, Gianfranco, 1507  
 Ciriano, Miguel A., 1891  
 Clark, Robin J. H., 579, 815, 1775  
 Clayden, Nigel J., 1811  
 Clegg, William, 565, 1977, 2161  
 Cloke, F. Geoffrey N., 423  
 Clucas, Jennifer A., 1835  
 Coates, John H., 413  
 Coffman, Robert E., 891  
 Cohen, Haim, 641  
 Cole-Hamilton, David J., 387  
 Colquhoun, Howard M., 761, 1249  
 Commenges, Gérard, 1087  
 Connelly, Neil G., 699, 777, 1019, 1027, 2283  
 Constable, Edwin C., 333, 1719, 2247, 2687  
 Cook, Michael J., 1781  
 Coombe, Vyvyan T., 947  
 Cooper, Gary R., 1213  
 Cooper, Mervyn K., 1761  
 Coronas, Juan Maria, 2333  
 Coville, Neil J., 2277  
 Cowley, Alan H., 383, 1303  
 Cox, David N., 2343  
 Cox, Kevin, 423  
 Cradock, Stephen, 755  
 Crisponi, Guido, 1349  
 Crocker, Mark, 2145  
 Crook, Janet E., 2407  
 Crotti, Corrado, 163  
 Croud, Vincent B., 815  
 Cummins, Diane, 493  
 Curtis, Hilary, 1723  
 Curtis, Neil F., 151  
 Curtis, Neville J., 1923  
 Curzon, Eirian H., 1361, 2195  
 D'Alfonso, Giuseppe, 1507  
 Dadkhah, Hengameh, 1523  
 Dagnall, Stephen P., 2381  
 Dahan, Françoise, 2521  
 Daniele, Pier G., 2353  
 Daolio, Sergio, 1547  
 Darkwa, James, 1435  
 Darwent, James R., 395  
 Datta, Dipankar, 159  
 Dauter, Zbigniew, 1235  
 Davidson, Jack L., 2231, 2239  
 Davies, Alwyn G., 471  
 Davies, Cathryn E., 669, 2037  
 Davies, Julian A., 209  
 Davies, Stephen G., 1479, 2691  
 Davis, Vivienne A., 1673  
 Dawes, Helen M., 921, 1775  
 Dènes, Georges, 1275  
 Deeming, Antony J., 85, 743, 857, 1037, 1609, 2479  
 de Graaff, Rudolf A. G., 737  
 Delgado, Esther, 1323  
 Deplano, Paola, 1349  
 de Queiroz, José C., 1103  
 Derakhshan, B. Mokhtar, 997  
 Deraniyagala, Samitha P., 1577  
 De Robertis, Alessandro, 2353  
 Derome, Andrew E., 423  
 De Stefano, Concetta, 2353  
 Dessy, Giulia, 1285  
 Di Bianca, Francesca, 523  
 Dillon, Keith B., 1399  
 Dilworth, Jonathan R., 1523, 1533, 2305, 2639, 2647  
 Ditzel, Evert J., 555  
 Di Vaira, Massimo, 291, 2327  
 Djuran, Miloš I., 861  
 Dobson, Alan, 611, 621  
 Dobson, Christopher M., 1811  
 Dobson, Ian D., 1213  
 Doddridge, Bruce G., 413  
 Dokuzović, Zdravko, 1095  
 Dondi, Stefano, 487  
 Donovan-Mtunzi, Susan, 1037, 1609, 2473, 2479  
 Dougherty, Geoffrey, 651  
 Dove, Michael F. A., 707, 2433, 2551  
 Downs, Anthony J., 807, 941  
 Doyle, Michael J., 229  
 Drew, Michael G. B., 69, 417, 771, 1073, 1771, 1821, 1829  
 Driessen, Willem L., 737, 1699, 2177  
 Dubchak, Inna L., 17  
 Dyason, Jeffrey C., 831, 839

- Earl, Graham J., 663  
 Edwards, John O., 2269  
 Edwards, Peter G., 2167  
 Egsgaard, Helge, 879  
 Ehighaokhuo, Josephine O., 1665  
 Elbel, Susanne, 879  
 Ellis, Andrew, 879  
 Ellis, Arthur F., 1655  
 Ellis, John, 723, 1967  
 Ellul, Henriette, 503  
 Elrington, Margaret, 2407  
 Emo, Alan T., 1323  
 Engelhardt, Lutz M., 117, 125,  
 337, 831, 839, 981, 1747, 2541  
 Ercolani, Claudio, 1107, 1113  
 Eshima, Kiyoshi, 275  
 Espidel, Jouseff, 1859  
 Espinet, Pablo, 1163  
 Esteban, Montserrat, 973  
 Ettore, Renato, 1271  
 Evans, Dennis F., 1141, 1147,  
 1151, 1451, 2525  
 Fairman, Kevin, 1523  
 Fanchiang, Yueh-Tai, 1375,  
 1381  
 Fanizzi, Francesco P., 1057  
 Fares, Vincenzo, 1285  
 Farrar, David H., 2595  
 Farrugia, Louis J., 177, 645,  
 2437  
 Fenton, David E., 1471  
 Fernández, Vicente, 1281  
 Fernanda, M., 2079  
 Fernandez-Baeza, Juan, 1163  
 Filipczuk, Stephen W., 1761  
 Filippeschi, Stefania, 523  
 Finch, Arthur, 997  
 Fitzgerald, William, 141  
 Fitzpatrick, Noel J., 1637  
 Flanders, David J., 517, 1001  
 Flint, Colin D., 1775  
 Font-Altaba, Manuel, 1087  
 Formicka-Kozłowska, Grazyna,  
 535  
 Forster, Alan M., 941  
 Foss, Olav, 231  
 Frampton, Christopher S., 169  
 Francis, Keith C., 493  
 Freeman, Mark J., 1019, 1027,  
 2283  
 Freni, Maria, 1507  
 Frost, Victoria L., 2059  
 Fuchita, Yoshio, 873  
 Fuger, Jean, 1853  
 Fukuzumi, Shunichi, 899  
 Fumagalli, Alesso, 1137  
 Furukawa, Haruhiko, 1713  
 Gabe, Eric J., 151  
 Gaines, Donald F., 1645  
 Gainsford, Graeme J., 151  
 Galas, Anita M. R., 611, 1339  
 Galli, Beatrice, 1155  
 Galli, Paola, 1737  
 Gamelkoorn, Hendrikus J., 659,  
 1495, 2223  
 Gans, Peter, 663, 1195  
 Garbaskas, Mary, 783  
 Garcia, J. R., 1865  
 Garcia, Maria P., 2343  
 Gardiner, Ian M., 669  
 Garner, C. David, 1977, 2161  
 Gasparrini, Francesco, 1155  
 Gates, Peter N., 997  
 Gavioli, Giovanna Battistuzzi,  
 2363  
 Gehring, Stefan, 2609  
 Germain, Gabriel, 2263  
 Ghilardi, Carlo A., 605, 2209  
 Ghosh, Phalguni, 361  
 Gibb, Terence C., 1455  
 Gibson, Vernon C., 2025  
 Giesbrecht, Ernesto, 2469  
 Gill, J. Bernard, 99, 663, 1213  
 Gillard, Robert D., 253  
 Gilmour, David I., 851, 1693  
 Gilmour, David W., 795  
 Giorgetti, Aldo, 885  
 Girolami, Gregory S., 685, 921,  
 1339  
 Glaves, Lyn R., 771  
 Gleria, Mario, 1547  
 Goddard, Jeffrey P., 471  
 Goggin, Peter L., 1597  
 Golding, Bernard T., 1997  
 Golub, Daniel, 641  
 Golubev, Sergei N., 17  
 González, Edgar, 1859  
 González, Juan M. Rubio, 2155  
 Goodall, David C., 99, 1213  
 Goode, Michael J., 941  
 Goodgame, Margaret, 75  
 Goodman, Bernard A., 1717  
 Gott, George A., 2661  
 Goudsmit, Robert J., 1795  
 Gracey, Benjamin P., 1935  
 Graham, Paul G., 777  
 Graimann, Christof E., 2025  
 Grandi, Giulia, 2363  
 Greatrex, Robert, 541  
 Grebenik, Peter D., 423, 669,  
 2025  
 Green, Jennifer C., 423, 669,  
 2037, 2677  
 Green, Malcolm L. H., 423, 669,  
 1585, 2025, 2037  
 Green, Michael, 177, 435, 2009,  
 2145, 2343, 2483  
 Greenhough, Trevor J., 761  
 Greenwood, Norman N., 541,  
 953, 1119, 1843, 2397, 2407  
 Griffith, William P., 717, 1673  
 Grilli, Ernesta, 2561  
 Gross, Maurice, 711  
 Grundy, Kevin R., 1577  
 Guarido, Carmen G., 1865  
 Guimon, Claude, 43  
 Gukathasan, Ravi R., 2595  
 Gulliver, David J., 1265  
 Gundersen, Grete, 191  
 Gupta, Minu, 2449  
 Gupta, Vishnu D., 2623  
 Gupta, Yugul Kishore, 2571  
 Gutiérrez-Puebla, Enrique, 1633  
 Guzmán, M. Carmen Carmona,  
 31  
 Hägele, G., 871  
 Haase, Wolfgang, 315, 913, 1243,  
 1909, 2609  
 Hague, David N., 2381  
 Hahn, Ekkehardt, 2427  
 Hails, Michael J., 693, 953  
 Halfpenny, Joan, 1399  
 Hall, Kevin P., 1811  
 Hallam, Malcolm F., 845  
 Hallett, Christopher, 451  
 Hanaki, Akira, 1513  
 Hancock, Robert D., 1877  
 Hankey, David R., 177  
 Harbron, Stephen K., 205  
 Harding, Majorie M., 1835  
 Hare, Philip M., 423, 2025  
 Harriman, Anthony, 503  
 Harris, Gillian W., 2277  
 Harris, R. K., 871  
 Harrison, Aidan T., 1173, 1953  
 Harrison, David, 885  
 Hašek, Jindřich, 2393  
 Hasegawa, Etsuo, 275  
 Hassan, Fatma S. M., 279, 1501  
 Hasselkus, Cynthia S., 209  
 Hatfield, William E., 2509  
 Hathaway, Brian, 141  
 Haupt, Steven G., 269  
 Hawkes, Geoffrey E., 225, 2473  
 Hayashida, Hideki, 873  
 Haymore, Barry L., 621  
 Hazel, Nicholas J., 669, 2037  
 Healy, Peter C., 111, 117, 125,  
 831, 839, 2531, 2541  
 Heath, Graham A., 947, 1081  
 Hegarty, Anthony F., 1915  
 Hempleman, Andrew J., 1775  
 Henderson, Richard A., 2059,  
 2067  
 Henrick, Kim, 1795  
 Hensen, Karl, 1, 5  
 Herak, Rajna, 861  
 Hibbert, Richard C., 707, 865,  
 2433, 2551  
 Higgins, Kevin M., 2195  
 Higuchi, Masahiro, 101  
 Hill, Ross H., 2421  
 Hill, William E., 1387, 2655  
 Hills, Adrian, 1069  
 Hiraki, Katsuma, 873  
 Hitchcock, Peter B., 1295, 1929  
 Hlatky, Gregory G., 1277  
 Hodgson, Diane, 1331  
 Holdcroft, Geoffrey E., 1731  
 Holden, H. Diane, 85  
 Hollands, Ronald E., 1527  
 Hollis, (the late) Stephen, 1829  
 Holloway, John H., 1853  
 Homsy, Nayla K., 2205  
 Honda, Atsunori, 59  
 Hope, Eric G., 529, 1265, 1443,  
 2185  
 Hosseiny, Afshin, 135  
 Howard, Christopher G., 921  
 Howard, Judith A. K., 777, 905,  
 1331, 2009, 2017  
 Howarth, Oliver W., 1173, 1953,  
 2195  
 Howells, Nigel D., 845  
 Huber, Friedo, 523  
 Hudson, Michael J., 771, 1655  
 Huffman, John C., 621  
 Hugel, René P., 597  
 Hughes, David L., 459, 1523  
 Hursthouse, Michael B., 85, 387,  
 471, 611, 685, 921, 931, 1043,  
 1339, 1775, 2167, 2321  
 Husbands, June M., 151  
 Hussain, M. Sakhawat, 749  
 Hussain, Wasif, 1131  
 Hutchinson, John, 1069, 2639,  
 2647  
 Hutchinson, John P., 1533  
 Huttner, Gottfried, 1061  
 Hutton, Alan T., 1677, 2121  
 Hynes, Michael J., 1543, 2565  
 Ibers, James A., 2369  
 Iftikhar, Khalid, 2547  
 Iggo, Jonathan A., 1009  
 Iijima, Kinya, 2555  
 Imperatori, Patrizia, 1285  
 Imran, Ahmed, 549  
 Inani, Krishnadass M., 2571  
 Innocenti, Paolo, 605, 2209  
 Interrante, Leonard V., 783  
 Ishikawa, Kunio, 899  
 Itoh, Takayuki, 2555  
 Iwamoto, Kyoko, 987  
 Iwamoto, Takeo, 81  
 Izquierdo, Alejo, 2037  
 Jackson, Peter F., 1795  
 Jacobsen, Grant B., 1645  
 James, Brian R., 617  
 Jeffery, John C., 645, 1315, 1323,  
 2001  
 Jeffreys, Brian, 99  
 Jerez, Antonio, 1633, 2225  
 Jewiss, Hilary C., 199  
 Jia-Long, Zhou, 991  
 Johnson, Brian F. G., 85, 555,  
 1277, 1723, 1795  
 Johnson, Owen, 2017  
 Jones, Christopher J., 401, 405,  
 1249  
 Jones, Peter G., 1163, 2417  
 Jones, Peter J., 529, 1443  
 Jones, Richard H., 1479  
 Judge, Austin I., 1853  
 Jump, Graham A., 541  
 Jund, Rodolphe, 711  
 Jurišić, Blaženka, 1095  
 Jutzi, Peter, 1303  
 Kabir, Shariff E., 1037, 2479  
 Kaden, Thomas A., 1169  
 Kaitner, Branko, 2457  
 Kakahana, Hidetake, 1733, 2427  
 Kalatzis, George, 2461  
 Kamabuchi, Keiko, 635  
 Kamenar, Boris, 2457  
 Kan, Chi Tat, 1523  
 Kanzaki, Tadao, 1713  
 Katakis, Dimitris, 2461  
 Katsura, Takashi, 1713  
 Katti, Kattesh V., 285, 2459  
 Kaufman, Clifford M., 307  
 Kazika, Anna I., 17  
 Kemmitt, Raymond D. W., 259,  
 549  
 Kemp, Terence J., 517  
 Kennard, Colin H. L., 243  
 Kennedy, John D., 953, 1119,  
 1843, 2397, 2407  
 Keszler, Douglas A., 2369  
 Khan, Fatima K., 333  
 Kida, Sigeo, 59, 1945, 2375  
 Kimura, Masaru, 355  
 Kinomura, Nobukazu, 2349  
 Kirschenbaum, Louis J., 1789,  
 2615  
 Kisenyi, Jonathan M., 69, 1073  
 Kishii, Noriyuki, 373  
 Klebe, Gerhard, 1, 5  
 Kleine-Boymann, Michael, 2493  
 Kleywegt, Gerard J., 2177  
 Knox, Selby A. R., 1935  
 Koga, Genji, 1959  
 Kohata, Susumu, 2575  
 Kojić-Prodić, Biserka, 455, 1531  
 Kondrashov, Yuri D., 17  
 Konstantatos, John, 2461  
 Kowalik, Teresa, 1201  
 Kozłowski, Henryk, 1201  
 Krasutskii, Pavel A., 17  
 Kratochvíl, Bohumil, 2393  
 Krishnamurthy, Setharampattu  
 S., 285, 1431, 1881, 2459  
 Kroto, Harold W., 1767  
 Kruger, Gert J., 1963  
 Kückelhaus, W., 871  
 Kumada, Nobuhiro, 2349  
 Kurmoo, Mohamedally, 579,  
 815  
 Kuroda, Reiko, 795  
 Kvammen, Frode, 231  
 Kwiatkowski, Edmund, 803,  
 2319  
 Kwiatkowski, Marek, 803  
 La Ginestra, Aldo, 1737  
 Laguna, Antonio, 2417  
 Laguna, Mariano, 2417  
 Lahiri, Sujit Chandra, 867

- Lahoz, Fernando J., 1487, 1891  
 Laitinen, Risto, 869  
 Lambrecht, Günter, 1743  
 Langrick, C. Richard, 511, 1015, 2121  
 Lappert, Michael F., 51, 229  
 Lappin, A. Graham, 2213  
 Laurie, Jill C. V., 2017  
 Lavery, Aidan, 1053, 1771  
 Lawrence, Geoffrey A., 1923  
 Legros, Jean-Pierre, 783  
 Lehn, Jean-Marie, 1517, 2311  
 Leigh, G. Jeffery, 1069, 1131, 2647  
 Leland, Jonathan K., 1303  
 Lelievre, Joel, 591  
 Lemoine, Paul, 711  
 León, Vladimir, 1859  
 Leoni, Piero, 2561  
 Leporati, Enrico, 1605  
 Leung, Wing-Por, 337, 1747  
 Levason, William, 199, 205, 529, 1265, 1443, 1735, 2185  
 Lewis, Diane B., 905, 2001  
 Lewis, Gregg E., 905, 2001  
 Lewis, Jack, 85, 333, 555, 1277, 1795  
 Lian, Lu Yun, 225  
 Lincoln, Stephen F., 413  
 Lindsay, Alan J., 2321  
 Linoh, Haryanto, 1743  
 Liprot, Michael C., 333  
 Liu, Si-Han, 2217  
 Logan, Norman, 707, 865, 2433, 2551  
 Lucy, Andrew R., 699  
 Luke, Michael A., 851  
 Lyons, David, 587  
 Männig, Detlef, 1689  
 Ma, Emei, 2595  
 MacCurtain, Jacqueline, 2591  
 MacDonald, Colin J., 2473  
 MacLean, Gregory K., 1405  
 Macpherson, Kirsty A., 1935  
 Maddock, Alfred G., 991  
 Maeda, Yonezo, 2375, 2575  
 Maehara, Hiroaki, 1945  
 Mahmoud, Khalil A., 1365  
 Maitlis, Peter M., 573, 1555  
 Makino, Tadashi, 2139  
 Maleyev, Victor I., 17  
 Malik, Anis U., 2547  
 Malik, K. M. Abdul, 2167  
 Malini-Balakrishnan, Raman, 2291  
 Mangani, Stefano, 1179, 1425  
 Manhas, Baldev Singh, 1985  
 Mani, Fabrizio, 2327  
 Manivannan, Veeragathy, 2671  
 Mann, Brian E., 693, 1155, 1555  
 Manners, Ian, 2283  
 Manning, Peter J., 85, 1037  
 Manohar, Hattikudur, 1881, 2051  
 Manojlović-Muir, Ljubica, 861  
 Manotti-Lanfredi, Anna M., 1057, 1155  
 Manzano, Blanca R., 2417  
 Marøy, Kjartan, 231  
 Marangoni, Giampaolo, 731, 2091  
 Marder, Todd B., 2009  
 Maresca, Luciana, 1057, 1155  
 Markham, David P., 279  
 Markwick, Andrew J. W., 549  
 Marsden, Christine, 645, 1315  
 Marshall, Andrew, 1399  
 Marshall, Gregory L., 1265, 2185  
 Martin-Polo, Jesus J., 2037  
 Martinengo, Secondo, 35, 1137, 1309  
 Mason, Joan, 2473  
 Massucci, Maria A., 1737  
 Mathieu, René, 1087, 1981, 2521  
 Matisons, Janis G., 1223  
 Matsubara, Chiyo, 81  
 Matsubayashi, Gen-etsu, 465  
 Matsumoto, Keiji, 2095  
 Matsumoto, Naohide, 101, 107, 2575  
 Matsushita, Yoh-ichi, 275  
 Mawby, Roger J., 1235  
 Mays, Martin J., 1355  
 Mazid, Muhammed A., 795  
 McAdam, Michael E., 2381  
 McAuliffe, Charles A., 135, 1387, 1391, 2655, 2661  
 McCleverty, Jon A., 401, 405, 1249  
 McDonald, Walter S., 953, 1843  
 McEwan, David M., 1501, 2121  
 McGinn, Michael A., 1637  
 McKean, Donald C., 1207  
 McKee, Vickie, 1771  
 McKenna, Peter, 259, 549  
 McNaughton, Donald, 1767  
 McPartlin, Mary, 1795  
 McPhail, Donald B., 1717  
 McQuillan, Geoffrey P., 1207  
 McWhinnie, William R., 821  
 Mealli, Carlo, 479  
 Meanwell, Neil J., 1555  
 Meina, Dominic G., 1645, 1903  
 Menabue, Ledi, 2363  
 Mentasti, Edoardo, 1789, 2615  
 Meyerstein, Dan, 641  
 Micheloni, Mauro, 1169  
 Midollini, Stefano, 605, 2209  
 Migita, Catharina T., 1077  
 Miles, Anthony D., 2437  
 Mills, Nancy K., 111  
 Mills, Rona M., 699  
 Minchin, Nigel J., 1183  
 Mingos, D. Michael P., 845, 851, 1693, 1811, 2343  
 Miravittles, Carles, 1981, 2333  
 Mishra, Anjali, 2449  
 Missen, Paul H., 1147, 1451  
 Mittal, Pramod K., 1561, 1569  
 Miyamura, Kazuo, 2139  
 Mockford, M. Jane, 717  
 Molinari, Henriette, 1899  
 Molloy, Kieran C., 1417  
 Monacelli, Fabrizio, 1107, 1113  
 Monge, Angeles, 1633  
 Moon, Steven D., 1479  
 Moore, David S., 611, 617  
 Moore, Peter, 219, 1361  
 Moreton, Anthony D., 2381  
 Mori, Nobuo, 1065, 1661  
 Mori, Wasuke, 2095  
 Morley, Christopher P., 1303  
 Morpurgo, Giorgio O., 1285  
 Morris, John H., 1645, 1903  
 Morrisson, Andrew R., 1207  
 Morton, Carolyn E., 2145  
 Morton, Stephen, 1295  
 Moser, Ulrich, 1743  
 Mosset, Alain, 1597  
 Motevalli, Majid, 685, 921, 931, 2167, 2321  
 Mtetwa, Victor S. B., 669, 2037  
 Mueller, Melvin H., 2369  
 Mukaida, Masao, 1733, 2427  
 Muller, Guillermo, 2333  
 Mura, Pasquale, 2101  
 Murati, Ivo, 1095  
 Murr, Nabil El, 1249  
 Murray, Martin, 177  
 Murray, Stephen G., 1265, 2185  
 Muto, Fumio, 2349  
 Mutschler, Ernst, 1743  
 Mwesigye-Kibende, Samson, 1997  
 Nagle, Katharine R., 2145  
 Nakahara, Akitsugu, 2095  
 Nakamura, Akira, 635  
 Nakamura, Masaaki, 59  
 Nakao, Yasuo, 2095  
 Nakatsuka, Kunio, 2095  
 Nandana, W. A. Shantha, 1623  
 Nardelli, Mario, 321, 487  
 Nardi, Nicoletta, 479, 1179, 1425  
 Narula, Chaitanya K., 2623  
 Natile, Giovanni, 1057, 1155  
 Neaves, Bryan D., 1249, 2647  
 Neidle, Stephen, 795  
 Nelson, S. Martin, 1053, 1771  
 Nelson, William J. H., 1795  
 Nepveu, Françoise, 315  
 Nguyen, Minh Tho, 1915  
 Nicholls, Barry S., 1835  
 Nicholson, Terry, 2639  
 Niecke, Edgar, 879  
 Nishida, Suzuki, 355  
 Nishida, Yuzo, 1945, 2375  
 Nishide, Hiroyuki, 65, 275  
 Nishikawa, Yuji, 81  
 Nixon, John F., 1295  
 Nöth, Heinrich, 1689, 2623  
 Nogami, Hidenori, 101  
 Nohr, Ronald S., 269  
 Noltemeyer, Mathias, 565, 2205  
 Noordik, Jan N., 2177  
 Norman, Nicholas C., 383, 435, 1303  
 Normanton, Fred B., 2647  
 Novikova, Marina I., 17  
 Nowell, I. W., 2505  
 Nuber, Bernhard, 2493  
 Nunn, Michael, 2433  
 Öhman, Lars-Olof, 2665  
 Okawa, Hisashi, 59  
 O'Brien, Paul, 2085  
 O'Hare, Dermot, 1585  
 O'Reilly, Eric J., 243  
 Oakes, John, 493  
 Ochi, Naoyuki, 873  
 Odell, Barbara, 2161  
 Odiaka, Timothy I., 1049  
 Ogden, J. Steven, 529, 1443  
 Ogura, Kotaro, 1077, 2499  
 Ohkubo, Katsutoshi, 1959  
 Ohta, Shoichi, 2575  
 Ohya, Toshie, 987  
 Ohyoshi, Akira, 101, 107, 2575  
 Ojo, J. Folorunso, 1665  
 Okawa, Hisashi, 2575  
 Okey, J. Nigel, 75  
 Olby, Bruce G., 2101  
 Ollerenshaw, Timothy J., 2161  
 Olubuyide, Olusegun, 1665  
 Omar, Hadi A. A., 219, 1361  
 Ondo, Benjamin Mve, 597  
 Ooi, Shun'ichiro, 2095  
 Orama, Olli, 2079  
 Orioli, Pier Luigi, 1179, 1425  
 Orlandini, Annabella, 605, 2209  
 Oro, Luis A., 973, 1487, 1891  
 Orpen, A. Guy, 177, 435, 1019, 1027, 1935, 2145, 2283, 2483  
 Orrell, Keith G., 345, 1561, 1569, 2195  
 Osborne, Anthony G., 1527  
 Ozawa, Toshihiko, 1513  
 Paap, Frans, 737  
 Pakawatchai, Chaveng, 117, 125, 831, 839, 2531  
 Pakulski, Marek, 383  
 Pal, Amalendu, 867  
 Pal, Samundranil, 159  
 Pampaloni, Guido, 1989  
 Pannetier, Jean, 1275  
 Paoletti, Piero, 1169  
 Parish, R. V. (Dick), 1391  
 Parker, David, 1517, 2311  
 Parmar, Swarn S., 2221  
 Pascal, Jean-Louis, 297  
 Pasquali, Marco, 2561  
 Passmore, Jack, 9, 1405, 1623  
 Pastore, Annalisa, 1899  
 Patrick, Jennifer M., 981, 1183, 1223, 1229  
 Patrick, Vincent A., 831, 839, 2541  
 Paulus, Helmut, 913  
 Pavlović, Dušanka, 1095  
 Paz-Sandoval, Maria de los Angeles, 2677  
 Pérez, Pedro L., 973  
 Peart, Barry J., 795  
 Pelizzi, Corrado, 215, 321, 487, 2387  
 Pelizzi, Giancarlo, 215, 321, 487, 2387  
 Pellacani, Gian Carlo, 2363  
 Pellinghelli, Maria Angela, 1349  
 Pennesi, Giovanna, 1107, 1113  
 Pennington, Mark, 2683  
 Pepliński, Zbigniew, 2319  
 Peringer, Paul, 223, 1061  
 Persson, Ingmar, 1597  
 Peruzzini, Maurizio, 291  
 Peters, Roy, 85  
 Pettit, Leslie D., 535, 1201  
 Pezeshk, Abbas, 891  
 Pfister-Guillouzo, Geneviève, 43  
 Pickardt, Joachim, 2427  
 Pickett, Christopher J., 1131, 1255, 2079  
 Pico, Carlos, 2225  
 Pierpoint, Colin, 219, 1361  
 Pignatello, Joseph J., 1381  
 Pilbrow, John R., 651  
 Pilkington, Roger S., 1405  
 Pilling, Michael J., 2247  
 Pimblett, Gillian, 1977  
 Pinillos, M. Teresa, 1487  
 Pinkert, Waltraud, 565  
 Pitteri, Bruno, 2091  
 Pizzotti, Maddalena, 163  
 Platt, Andrew W. G., 345  
 Plazzogna, Gualtiero, 1271  
 Pöcew, Stefan, 2457  
 Podlaha, Jaroslav, 2393  
 Podlahová, Jana, 2393  
 Poilblanc, René, 43  
 Poli, Rinaldo, 931  
 Pombeiro, Arm J. L., 2079  
 Poojary, M. Damodara, 1881  
 Porta, Francesca, 163  
 Potier, Jacqueline, 297  
 Powell, Paul, 2677  
 Power, Philip P., 51  
 Pratt, John M., 1613, 1619  
 Pratten, Stephen J., 1761  
 Predieri, Giovanni, 487, 2387  
 Preece, Michael, 617  
 Pringle, Paul G., 279, 1015, 1501, 1677, 2121  
 Proud, Graeme P., 857  
 Prout, Keith, 669, 2025, 2037  
 Puddephatt, Richard J., 2421  
 Puga, José, 1795

- Purkayastha, Ranendra N. Dutta, 409  
 Pye, Peter L., 229  
 Qing-jin, Meng, 2269  
 Quill, Kieran, 1417  
 Rábai, Gyula, 1669  
 Radanović, Dušan J., 861  
 Raithby, Paul R., 333, 555, 1277, 1355  
 Ramsden, Christopher A., 795  
 Randall, Edward W., 225  
 Rankin, David W. H., 191, 755, 807, 827, 941  
 Rankin, Douglas A., 1131  
 Rao, M. N. Sudheendra, 1405  
 Rao, S. P. Sudhakara, 2051  
 Raston, Colin L., 337, 831, 1747  
 Raubenheimer, Helgard G., 1963  
 Raven, Stephen J., 2283  
 Read, Gordon, 1591  
 Reddy, K. Veera, 2603  
 Reddy, M. Harilatha, 239  
 Reddy, M. Satyanarayan, 2603  
 Reddy, P. Rabintra, 239  
 Reed, David, 1645  
 Reediijk, Jan, 737, 1699, 2177  
 Rest, Antony J., 1365  
 Reynolds, Colin D., 1235  
 Rice, David A., 417, 1821  
 Richards, John P. G., 253  
 Richards, Raymond L., 1523, 2473  
 Richoux, Marie-Claude, 503  
 Rigano, Carmelo, 2353  
 Rimmer, John, 1517  
 Risse, Wilhelm, 777  
 Ritchie, Ian M., 1747  
 Rivarola, Eleonora, 523  
 Robbins, David J., 1781  
 Roberts, Roger M. G., 169  
 Robertson, Heather E., 191, 807, 827, 941  
 Robinson, Stephen D., 611, 617, 621, 629, 2101, 2113  
 Robinson, Ward T., 1289  
 Rocamora, Mercè, 2333  
 Rodríguez-Castellón, Enrique, 213  
 Rodríguez-García, Aurora, 213  
 Rodríguez, Julio, 1865  
 Roesky, Herbert W., 565, 2205, 2453  
 Roge, Gerhard, 523  
 Rojas, Ramón L. Espinoza, 2469  
 Ros, Josep, 1087, 1981  
 Rossi, Gentilina, 1113  
 Rothin, Anne S., 401, 405  
 Ruebenbauer, Krzysztof, 1275  
 Ruisi, Giuseppe, 523  
 Ruiz-Valero, Caridad, 1633  
 Russell, David R., 259, 549  
 Ružić-Toroš, Živa, 455, 1531  
 Ryabov, Alexr D., 2629  
 Ryzhov, Mikhail G., 17  
 Šik, Vladimir, 345, 1561, 1569, 2195  
 Sánchez-Burgos, Francisco, 1975  
 Sánchez-Delgado, Roberto A., 1859  
 Sabat, Michal, 479  
 Sabatini, Antonio, 1195  
 Saburi, Masahiko, 2139  
 Sadler, Peter J., 795  
 Sakaki, Shigeoyoshi, 1959  
 Sakodinskaya, Inna K., 2629  
 Salagre, Pilar, 2263  
 Sales, Keith D., 225  
 Salt, Julian E., 685  
 Sammartano, Silvio, 2353  
 Sandström, Magnus, 1597  
 Sarisaban, Serap, 1929  
 Sasada, Yoko, 873  
 Sato, Fumio, 1959  
 Sato, Mitsunobu, 895  
 Sato, Mitsuo, 987  
 Sato, Yoichi, 895  
 Saunders, David R., 1235  
 Savage, (née Roquet-Covarrubias), Sonia, 991  
 Schaverien, Colin J., 2483  
 Schlüter, Ewald, 1303  
 Schmidbaur, Hubert, 827  
 Schriver, Melbourne J., 1405  
 Schubert, Ulrich, 2079  
 Schumann, Herbert, 2427  
 Schwabe, Ludwig, 1909  
 Scimar, Christiane N., 209  
 Seddon, Kenneth R., 2247  
 Seeber, Renato, 601  
 Seega, J., 871  
 Seeman, Jeffrey I., 2691  
 Seip, Ragnhild, 827  
 Semelhago, Gavin, 2595  
 Sen, Buddhadev, 307  
 Sengupta, Dipak, 867  
 Seregini, Claudio, 1309  
 Sertić, Mira, 1095  
 Seseke, Ulrich, 565  
 Sethulekshmi, C. N., 2509  
 Shand, Mark A., 517  
 Sharma, Prem Dutt, 2571  
 Shaw, Bernard L., 279, 511, 1009, 1015, 1213, 1501, 1677, 2121, 2131  
 Sheehan, Alan R., 1019  
 Sheldrick, George M., 565, 1163, 2205, 2417  
 Sheldrick, William S., 1743  
 Sheridan, John B., 699, 1019, 1027  
 Sherry, Lesley J. S., 259, 549  
 Shibata, Shuzo, 2555  
 Shimizu, Kunio, 1733  
 Shimo, Hiroyuki, 1945  
 Shiraishi, Shinsaku, 373  
 Shklover, Valeri E., 17  
 Siddiqui, Md. Rafiq H., 2603  
 Siddiqui, Zafar A., 2453  
 Siegfried-Hertli, Liselotte, 1169  
 Sigel, Helmut, 2291  
 Silver, Jack, 169  
 Silvestri, Arturo, 523  
 Simmons, Charles J., 141  
 Simmons, Nicholas D., 1323  
 Simpson, Stephen J., 1479  
 Singh, Harkesh B., 821  
 Sironi, Angelo, 1507, 1795  
 Sjöberg, Staffan, 2665  
 Skarda, Vladimir, 1781  
 Skelton, Brian W., 1183  
 Skorobogaty, Andrew, 651  
 Smith, Anthony K., 1835  
 Smith, Deborah J., 1811  
 Smith, Garry, 387  
 Smith, Graham, 243  
 Smith, J. David, 1929  
 Smith, Thomas D., 651  
 Sola, Marco, 2363  
 Solans, Xavier, 1087, 1981, 2263, 2333  
 Somerville, Richard G., 2343  
 Sood, Anup, 209  
 Sosa, Martha E., 475  
 Sowerby, D. Bryan, 2433  
 Spalding, Trevor R., 2591  
 Spencer, Catriona M., 693, 1555  
 Spreafico, Federico, 523  
 Sreelatha, Channareddy, 2623  
 Stacey, Catherine, 135  
 Stavropoulos, Pericles, 2167  
 Steel, Ian, 535, 1201  
 Stephens, Michael, 997  
 Stephenson, G. Richard, 1723  
 Stephenson, T. Anthony, 947  
 Steudel, Ralf, 1869  
 Stobart, Stephen R., 1935  
 Stone, F. Gordon A., 177, 645, 905, 1315, 1323, 1331, 2001, 2009, 2017, 2343, 2437  
 Stoppioni, Piero, 291  
 Strauss, Eva-Maria, 1869  
 Struchkov, Yuri T., 17  
 Strumolo, Donatella, 35, 1309  
 Suárez, Marta, 1865  
 Sueiras, Jesús-Eduardo, 2263  
 Sutcliffe, Leslie H., 1405  
 Suzuki, Shinnichiro, 2095  
 Swamy, K. C. Kumara, 1431, 1881  
 Swigart, Dwight A., 1019, 2269  
 Swiridoff, Wolfgang, 2493  
 Sylva, Ronald N., 723, 1967  
 Symonds, Andrew N. D., 1027  
 Symons, Martyn C. R., 379  
 Szpakowska, Maria, 1849  
 Tacke, Reinhold, 1743  
 Tajik, Mahmoud, 199, 529, 1443, 1735  
 Takahashi, Kazuhiro, 2375  
 Takamori, Michiko, 1065, 1661  
 Takamura, Kiyoko, 81  
 Takemura, Tetsuo, 1065  
 Tames, Joseph, 1391  
 Tanaka, Toshio, 465, 899  
 Tanner, S. Peter, 2661  
 Taqui Khan, Badar, 2603  
 Taqui Khan, Mirza M., 2603  
 Tarasconi, Pieralberto, 215, 321  
 Tatarowski, Tomasz, 535  
 Tate, John R., 1471  
 Tattershall, Bruce W., 1707  
 Taylor, Brian F., 1555, 2505  
 Taylor, Michael J., 555  
 Taylor, Norman, 1213  
 Taylor, Peter, 9  
 Tellinghuisen, Patricia C., 1289  
 Terreros, Pilar, 229  
 Thom, Vivienne J., 1877  
 Thomas, Gillian J. N., 1303  
 Thomas, Peter M., 1471  
 Thompson, Andrew J., 1781  
 Thomson, Colin, 1645  
 Thorburn, Ian, 617  
 Thornton-Pett, Mark, 387, 685, 921, 1119, 1339, 2131, 2397, 2407  
 Tiripicchio-Camellini, Marisa, 973  
 Tiripicchio, Antonio, 973, 1057, 1155, 1487, 1891  
 Tobe, Martin L., 27, 475, 731, 2091  
 Toledo, Jose Hidalgo, 31  
 Toma, Henrique E., 2469  
 Tomassini, Marco, 2561  
 Tomlinson, Anthony A. G., 1655  
 Tondreau, Gerard A., 2269  
 Tornero, Jesus D., 1281  
 Torto, Ivy, 1207  
 Tossing, G., 871  
 Townend, Timothy J., 1673  
 Traldi, Pietro, 1547  
 Tribolet, Roger, 2291  
 Trikha, Arun Kumar, 1985  
 Trogu, Emanuele Filiberto, 1349  
 Tso, Tze Chung, 1853  
 Tsuchida, Eishun, 65, 275  
 Tudela, David, 1281  
 Turff, Jeremy W., 529, 1443  
 Turp, Janet E., 2247  
 Ueyama, Kosuke, 465  
 Ueyama, Norikazu, 635  
 Ugo, Renato, 1971  
 Uma, Venkataraman, 209  
 Underhill, Allan E., 1731  
 Upton, Mark W., 1141, 1147, 1151, 2525  
 Urgelles, Miguel, 1591  
 Uruska, Irminda, 1849  
 Usón, Rafael, 2417  
 Vacca, Alberto, 1195  
 Valade, Lydie, 783  
 Valencia, Norma, 1859  
 Valle, Giovanni, 1271  
 Van, Driel, Gertjan J., 2177  
 Vargas, Maria D., 1795  
 Varshney, Krishna G., 1737  
 Vasapollo, Guisepppe, 2231, 2239  
 Vauchskii, Yuri P., 17  
 Vecchi, Enrico, 1547  
 Veiga, Maria Luisa, 2225  
 Velasco, Julian Rodriguez, 31  
 Vicente, José, 1163  
 Viljoen, Hendrik W., 1963  
 Villarroya, B. Eva, 1891  
 Vitali, Francesca, 2387  
 Vitt, Sergei V., 17  
 Vrachnou-Astra, Ersi, 2461  
 Walker, Alan, 2595  
 Walker, Nigel P. C., 85, 199, 471, 1043  
 Wallbridge, Malcolm G. H., 761  
 Walsh, James, 1543, 2565  
 Walz, Leonhard, 315, 913, 1243  
 Wandiga, Shem O., 69  
 Wardle, Robert W. M., 845, 1693  
 Warmsley, Joanne F., 169  
 Warrens, Christopher P., 1043  
 Watts, Andrew M., 2191  
 Weber, David C., 269  
 Weber, Karl-Ludwig, 565  
 Webster, Michael, 199, 1735  
 Weiss, Johannes, 2493  
 Welch, Alan J., 1645, 2343  
 Went, Michael J., 1331  
 West, Douglas X., 379  
 Whidden, Tom K., 9  
 White, Allan H., 111, 117, 125, 243, 337, 831, 839, 981, 1183, 1223, 1229, 1747, 2531, 2541  
 White, Peter S., 9, 1405, 1435, 1623  
 Whiteley, Mark W., 777, 1027  
 Whiteley, Richard H., 1527  
 Whitelock, John D., 947  
 Wickens, Denys A., 2203  
 Wiegardt, Karl, 2493  
 Wiesmeijer, Willem G. R., 2177  
 Wilkins, Cuthbert J., 1289  
 Wilkinson, Geoffrey, 587, 685, 921, 931, 1339, 2167, 2321  
 Willey, Gerald R., 69, 1073, 2683  
 Williams, David M., 417, 1821  
 Williams, Ian D., 435, 2483  
 Williams, Michael L., 1229  
 Willis, Anthony C., 1223  
 Wilson, Christina L., 1929  
 Wimmer, Franz L., 253  
 Wingfield, Jonathan N., 459  
 Winkler, Peter-Paul, 1061  
 Woodward, Peter, 699  
 Woollins, J. Derek, 1043, 2397, 2407  
 Wynne, Kenneth J., 269  
 Yamanaka, Shunichiro, 873

- Yamasaki, Shinji, 2499  
Yamase, Toshihiro, 2585  
Yano, Shigenobu, 81, 895  
Yates, Paul C., 1829  
Yatsimirski, Anatoli, 1971  
Yatsimirsky, Anatoly K., 2629
- Yavari, Ahmad, 2421, 2509  
Yavari, Bahrum, 169  
Yellowlees, Lesley J., 947, 1081  
Yoshikawa, Sadao, 81, 895, 2139  
Yoshimura, Chikako, 2575  
Yoshino, Takashi, 1077
- Yuasa, Makoto, 65, 275  
Yurchenko, Aleks G., 17  
Zanazzi, Pier Francesco, 1989  
Zanello, Piero, 601  
Zanobini, Fabrizio, 479, 1179,  
1425
- Zhang, Cheng Shan, 297  
Zielkiewicz, Jan, 1849  
Zsolnai, Laszlo, 1061  
Zubieta, Jon A., 1069, 1533,  
2639, 2647





## SUBJECT INDEX, 1985

**ACETALDEHYDE**

Reactions of hydride reagents with alkylmolybdenum carbonyl complexes. Reaction of  $\text{LiBHEt}_3$  with  $[\text{MoMe}(\text{CO})_3(\eta\text{-C}_5\text{H}_5)]$ , formation of an anionic acetaldehyde complex, and a stoichiometric cycle for the synthesis of acetaldehyde, 1815–20

**ACETALDOXIME**

Stabilisation of copper(I) by an azoimine ligand: redox properties and reactions of bis(phenylazoacetaldoximate)bis(phenylacetaldoxime)dicopper(I), 159–62

**ACETATE**

The crystal structure and electronic properties of the complex acetatobis(1,10-phenanthroline)copper(II) perchlorate dihydrate, acetatobis(1,10-phenanthroline)copper(II) nitrate dihydrate, and acetatobis(1,10-phenanthroline)zinc(II) tetrafluoroborate dihydrate, 141–50

Actinide structural studies. Part 7. The crystal and molecular structures of (2,2'-bipyridyl)dinitratodioxo-uranium(VI) and -neptunium(VI), and diacetato(2,2'-bipyridyl)dioxo-uranium(VI) and -neptunium(VI), 1001–8

Dirhodium(II,II) tetra-acetate complexes with axially co-ordinated triphenylstibine, triphenylarsine, and dibenzyl sulphide ligands. The syntheses, properties, and X-ray crystal structures of  $[\text{Rh}_2(\text{O}_2\text{CMe})_4(\text{SbPh}_3)_2]$ ,  $[\text{Rh}_2(\text{O}_2\text{CMe})_4(\text{AsPh}_3)_2]$ , and  $[\text{Rh}_2(\text{O}_2\text{CMe})_4\{\text{S}(\text{CH}_2\text{Ph})_2\}_2]$ , 1775–80

Equilibria between mono- and bi-nuclear complexes in  $\text{Cu}(\text{O}_2\text{CMe})_2$ -pyridine derivative-diluent systems. The influence of the amine ligand basicity, 1849–52

The easy catalytic reduction of  $\text{HClO}_4$ ,  $\text{HNO}_3$ , and  $\text{H}_5\text{IO}_6$  by CO in the presence of  $[\text{Pd}_3(\text{O}_2\text{CMe})_6]$ , 1971–4

Magnetic and spectroscopic properties of some heterotrinary basic acetates of chromium(III), iron(III), and divalent metal ions, 2509–20

Molecular structure of gaseous copper(I) acetate as determined by electron diffraction, 2555–60

Kinetics and mechanism of ortho-palladation of ring-substituted *N,N*-dimethylbenzylamines, 2629–38

**ACETONITRILE**

Isolation and crystal structure of  $[\text{Rh}(\text{PPh}_3)_3(\text{MeCN})][\text{BF}_4]$ , acetonitriletris(triphenylphosphine)rhodium(I) tetrafluoroborate, 1977–80

**ACETYLACETONATE**

Electrostatic solvent effect on the formation of the mixed-chelate complex (acetylacetonato)(diethylthiocarbamato)-copper(II), 987–90

**ACETYLENEDICARBONYLATE**

Bimetallic systems. Part 10. Synthesis of complexes of type  $[(\text{RC}\equiv\text{C})\text{Pt}(\mu\text{-dppm})_2\text{Pt}(\text{C}\equiv\text{CR})]$  (dppm =  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$ , R = Ph or *p*-tolyl) and their corresponding 'A frames'  $[(\text{RC}\equiv\text{C})\text{Pt}(\mu\text{-dppm})_2(\mu\text{-H})\text{Pt}(\text{C}\equiv\text{CR})]\text{Cl}$  or  $[(\text{RC}\equiv\text{C})\text{Pt}(\mu\text{-dppm})_2(\mu\text{-X})\text{Pt}(\text{C}\equiv\text{R})]$  with X =  $\text{CS}_2$  or  $\text{MeOCC}\equiv\text{CCOOMe}$ , 1015–8

**ACETYLIDE**

Bimetallic systems. Part 10. Synthesis of complexes of type  $[(\text{RC}\equiv\text{C})\text{Pt}(\mu\text{-dppm})_2\text{Pt}(\text{C}\equiv\text{CR})]$  (dppm =  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$ , R = Ph or *p*-tolyl) and their corresponding 'A frames'  $[(\text{RC}\equiv\text{C})\text{Pt}(\mu\text{-dppm})_2(\mu\text{-H})\text{Pt}(\text{C}\equiv\text{CR})]\text{Cl}$  or  $[(\text{RC}\equiv\text{C})\text{Pt}(\mu\text{-dppm})_2(\mu\text{-X})\text{Pt}(\text{C}\equiv\text{R})]$  with X =  $\text{CS}_2$  or  $\text{MeOCC}\equiv\text{CCOOMe}$ , 1015–8

Bimetallic systems. Part 12. Mixed rhodium(I)-platinum(II) acetylides containing bridging  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$ . Crystal structures of  $[(\text{MeC}\equiv\text{C})\text{Pt}(\mu\text{-dppm})_2(\sigma,\eta\text{-C}\equiv\text{CMe})\text{Rh}(\text{CO})]\text{PF}_6$  and of  $[\text{ClPt}(\mu\text{-dppm})_2(\sigma,\eta\text{-C}\equiv\text{CMe})\text{Rh}(\text{CO})]\text{PF}_6$ , 2121–30

**ACTINIDE**

Actinide structural studies. Part 7. The crystal and molecular structures of (2,2'-bipyridyl)dinitratodioxo-uranium(VI) and -neptunium(VI), and diacetato(2,2'-bipyridyl)dioxo-uranium(VI) and -neptunium(VI), 1001–8

**ACTIVITY COEFFICIENT**

On the possibility of determining the thermodynamic parameters for the formation of weak complexes using a simple model for

the dependence on ionic strength of activity coefficients:  $\text{Na}^+$ ,  $\text{K}^+$ , and  $\text{Ca}^{2+}$  complexes of low molecular weight ligands in aqueous solution, 2353–62

**ADENOSINE TRIPHOSPHATE**

Influence of decreasing solvent polarity (dioxane-water mixtures) on the stability and structure of binary and ternary complexes of adenosine 5'-triphosphate and uridine 5'-triphosphate, 2291–304

**ADENOSYL**

A new electron spin resonance spectrum for an exchange- and dipole-dipole coupled superoxocobalamin... free-radical pair occurring in adenosylcobalamin-containing systems, 891–4

**ALCOHOL**

Aluminium-27 and hydrogen-1 nuclear magnetic resonance studies of solutions of aluminium salts in alcohol-chloroform mixtures, 591–6

**ALKALI METAL**

Synthesis and structural assessment of ammonium and caesium difluorodioxoperoxouranates(VI),  $\text{A}_2[\text{UO}_2(\text{O}_2)\text{F}_2]$  (A =  $\text{NH}_4$  or Cs), and alkali-metal difluorodioxoperoxouranate(VI) monohydrates,  $\text{A}_2[\text{UO}_2(\text{O}_2)\text{F}_2]\cdot\text{H}_2\text{O}$  (A = K or Rb), 409–12

Co-ordination of alkali metals by open-chain polyethers in transition metal complexes. Part 4. Variation in alkali-metal ion selectivity in cobalt and zinc complexes of 1-(*o*-carboxymethoxyphenoxy)-2-(*o*-hydroxyphenoxy)ethane (HL) and the X-ray and molecular structure of  $[\text{Zn}(\text{NH}_4\text{L}_2)_2]$ , 459–64

Synthesis and properties of alkali-metal tetraoxo-osmate(VII) compounds, 1735–6

On the possibility of determining the thermodynamic parameters for the formation of weak complexes using a simple model for the dependence on ionic strength of activity coefficients:  $\text{Na}^+$ ,  $\text{K}^+$ , and  $\text{Ca}^{2+}$  complexes of low molecular weight ligands in aqueous solution, 2353–62

**ALKANONE**

Reactions of tris[(2*S*)-2-(aminomethyl)pyrrolidine]nickel(II) ion with alk-3-en-2-ones or 4-hydroxyalkan-2-ones: formation of an optically active tetra-aza macrocycle, 2139–44

**ALKENONE**

Reactions of tris[(2*S*)-2-(aminomethyl)pyrrolidine]nickel(II) ion with alk-3-en-2-ones or 4-hydroxyalkan-2-ones: formation of an optically active tetra-aza macrocycle, 2139–44

**ALKYL**

Electron-transfer reactions from *cis*-dialkylbis(2,2'-bipyridyl)cobalt(III) complexes to organic oxidants, 899–904

Alkyl, hydrido, and tetrahydroaluminato complexes of manganese with 1,2-bis(dimethylphosphino)ethane (dmpe). X-Ray crystal structures of  $\text{Mn}_2(\mu\text{-C}_6\text{H}_{11})_2(\text{C}_6\text{H}_{11})_2(\mu\text{-dmpe})$ ,  $(\text{dmpe})_2\text{Mn}(\mu\text{-H})_2\text{Al}(\mu\text{-H})_2\text{Al}(\mu\text{-H})_2\text{Mn}(\text{dmpe})_2$ , and  $\text{Li}_4\{\text{MnH}(\text{C}_2\text{H}_4)[\text{CH}_2(\text{Me})\text{PCH}_2\text{CH}_2\text{PMe}_2]\}_2\cdot 2\text{Et}_2\text{O}$ , 921–30

Synthetic and nuclear magnetic resonance studies on dialkyl- and diaryl-platinum complexes containing chelating, monodentate, or bridging  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$  ligands, 1501–6

Reactions of hydride reagents with alkylmolybdenum carbonyl complexes. Reaction of  $\text{LiBHEt}_3$  with  $[\text{MoMe}(\text{CO})_3(\eta\text{-C}_5\text{H}_5)]$ , formation of an anionic acetaldehyde complex, and a stoichiometric cycle for the synthesis of acetaldehyde, 1815–20

Some alkylplatinum(I) complexes and studies of the photochemical and thermal decomposition of the  $[\text{Pt}_2\text{Et}(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)_2(\text{Ph}_2\text{PCH}_2\text{PPh}_2\text{-P})]^+$  cation, 2421–6

**ALKYLAMINE**

Intercalation of alkylamines into tin(IV) bis(hydrogenphosphate) monohydrate, 213–4

**ALKYLCOBALAMIN**

Kinetic studies of oxidative dealkylation of alkylcobalamins by hexachloroplatinate(IV), 1375–80

**ALKYLCORRINOID**

The chemistry of vitamin B<sub>12</sub>. Part 25. Mechanism of the β-elimination of olefins from alkylcorrinoids; evidence for an initial homolytic fission of the Co–C bond, 1613–8

**ALKYLDIENE**

Organic chemistry of dinuclear metal centres. Part 8. Organo-iron-ruthenium chemistry. X-Ray structure of *trans*- $[\text{FeRu}(\text{CO})_2(\mu\text{-$

**ALKYLIDENE** (contd)

$\text{CO}_2(\eta\text{-C}_5\text{H}_5)_2$ , 1935–44

**ALKYLIDYNE**

Formation of substituted cyclopentadienyl ligands on tungsten *via* reactions between the alkyne complexes  $[\text{W}(\text{CO})(\text{R}^1\text{C}_2\text{R}^2)_3]$  ( $\text{R}^1 = \text{R}^2 = \text{Ph}$  or  $\text{Et}$ ;  $\text{R}^1 = \text{Me}$ ,  $\text{R}^2 = \text{Ph}$ ) and the alkylidyne compounds  $[\text{W}(\equiv\text{CR})(\text{CO})_2(\eta\text{-C}_5\text{H}_5)]$  ( $\text{R} = \text{C}_6\text{H}_4\text{Me-4}$  or  $\text{Me}$ ); *X*-ray crystal structures of  $[\text{W}_2(\mu\text{-CO})_2(\text{CO})(\eta\text{-PhC}_2\text{Ph})(\eta\text{-C}_5\text{Ph}_4\text{R})(\eta\text{-C}_5\text{H}_5)]$  and  $[\text{W}_2(\mu\text{-EtC}_2\text{Et})(\text{CO})_4(\eta\text{-C}_5\text{Et}_4\text{R})(\eta\text{-C}_5\text{H}_5)]$  ( $\text{R} = \text{C}_6\text{H}_4\text{Me-4}$ ), 905–12

**ALKYLPEROXO**

Routes of formation and crystal structure of an alkylperoxycobaloxime: bis[dimethylglyoximate(1-)](4-ethoxy-carbonylbut-3-en-2-ylperoxo)(pyridine)cobalt(III), 1997–2000

**ALKYNE**

Formation of substituted cyclopentadienyl ligands on tungsten *via* reactions between the alkyne complexes  $[\text{W}(\text{CO})(\text{R}^1\text{C}_2\text{R}^2)_3]$  ( $\text{R}^1 = \text{R}^2 = \text{Ph}$  or  $\text{Et}$ ;  $\text{R}^1 = \text{Me}$ ,  $\text{R}^2 = \text{Ph}$ ) and the alkylidyne compounds  $[\text{W}(\equiv\text{CR})(\text{CO})_2(\eta\text{-C}_5\text{H}_5)]$  ( $\text{R} = \text{C}_6\text{H}_4\text{Me-4}$  or  $\text{Me}$ ); *X*-ray crystal structures of  $[\text{W}_2(\mu\text{-CO})_2(\text{CO})(\eta\text{-PhC}_2\text{Ph})(\eta\text{-C}_5\text{Ph}_4\text{R})(\eta\text{-C}_5\text{H}_5)]$  and  $[\text{W}_2(\mu\text{-EtC}_2\text{Et})(\text{CO})_4(\eta\text{-C}_5\text{Et}_4\text{R})(\eta\text{-C}_5\text{H}_5)]$  ( $\text{R} = \text{C}_6\text{H}_4\text{Me-4}$ ), 905–12

Carbon-carbon formation at di-iron centres. Part 2. Reactivity of  $[\text{Fe}_2(\text{CO})_6(\mu\text{-COEt})\{\mu\text{-C}(\text{R})\text{C}(\text{R})\text{H}\}]$  complexes toward  $\text{MeOC}(\text{O})\text{C}\equiv\text{CC}(\text{O})\text{OMe}$  ( $\text{R} = \text{Ph}$ ) and  $\text{CF}_3\text{C}\equiv\text{CCF}_3$  ( $\text{R} = \text{Ph}$  or  $\text{H}$ ); *X*-ray crystal structures of  $[\text{Fe}_2(\text{CO})_5\{\mu\text{-C}(\text{OEt})\text{C}(\text{O})\text{OMe}\}\{\mu\text{-C}(\text{Ph})\text{C}(\text{Ph})\text{H}\}]\cdot\text{H}_2\text{O}$  and  $[\text{Fe}_2(\text{CO})_6\{\mu\text{-C}(\text{CF}_3)\text{C}(\text{CF}_3)\text{CHCH}(\text{OMe})\}]$ , 1087–94

Organic chemistry of dinuclear metal centres. Part 8. Organo-iron-ruthenium chemistry. *X*-Ray structure of *trans*- $[\text{FeRu}(\text{CO})_2(\mu\text{-CO})_2(\eta\text{-C}_5\text{H}_5)_2]$ , 1935–44

Synthesis and nuclear magnetic resonance studies of co-ordinatively unsaturated alkyne complexes of tungsten(II), 2239–46

**ALUMINIUM**

Partially oxidized group 3B fluorometallophthalocyanines, 269–74  
Aluminium-27 and hydrogen-1 nuclear magnetic resonance studies of solutions of aluminium salts in alcohol-chloroform mixtures, 591–6

Complexes of organoaluminium compounds. Part 13. Preparation and nuclear magnetic resonance spectra of the arylamido-compounds  $\text{AlMe}_2(\text{NHR}')$  ( $\text{R}' = \text{Ph}$ ,  $\text{C}_6\text{H}_4\text{Me-o}$ ,  $\text{C}_6\text{H}_4\text{Me-p}$ ,  $\text{C}_6\text{H}_3\text{Me}_2\text{-2,6}$ ) and the imido-compounds  $\text{AlMe}(\text{NR}')$ . Crystal and molecular structures of  $[\{\text{AlMe}_2(\text{NHC}_6\text{H}_4\text{Me-o})\}_2]$  and  $[\{\text{AlMe}(\text{NPh})\}_6]$ , 1929–34

The hydrolysis of metal ions. Part 8. Aluminium(III), 1967–70  
Equilibrium and structural studies of silicon(IV) and aluminium(III) in aqueous solution. Part 13. A potentiometric and  $^{27}\text{Al}$  nuclear magnetic resonance study of speciation and equilibria in the aluminium(III)-oxalic acid-hydroxide system, 2665–70

**ALUMINIUM-27**

Aluminium-27 and hydrogen-1 nuclear magnetic resonance studies of solutions of aluminium salts in alcohol-chloroform mixtures, 591–6

Equilibrium and structural studies of silicon(IV) and aluminium(III) in aqueous solution. Part 13. A potentiometric and  $^{27}\text{Al}$  nuclear magnetic resonance study of speciation and equilibria in the aluminium(III)-oxalic acid-hydroxide system, 2665–70

**AMIDE**

Subvalent group 4B metal alkyls and amides. Part 7. Transition-metal chemistry of metal(II) bis(trimethylsilyl)amides  $\text{M}'(\text{NR}_2)_2$  ( $\text{R} = \text{SiMe}_3$ ;  $\text{M}' = \text{Ge}$ ,  $\text{Sn}$ , or  $\text{Pb}$ ), 51–8

Complexes of organoaluminium compounds. Part 13. Preparation and nuclear magnetic resonance spectra of the arylamido-compounds  $\text{AlMe}_2(\text{NHR}')$  ( $\text{R}' = \text{Ph}$ ,  $\text{C}_6\text{H}_4\text{Me-o}$ ,  $\text{C}_6\text{H}_4\text{Me-p}$ ,  $\text{C}_6\text{H}_3\text{Me}_2\text{-2,6}$ ) and the imido-compounds  $\text{AlMe}(\text{NR}')$ . Crystal and molecular structures of  $[\{\text{AlMe}_2(\text{NHC}_6\text{H}_4\text{Me-o})\}_2]$  and  $[\{\text{AlMe}(\text{NPh})\}_6]$ , 1929–34

**AMINE**

Determination of the molecular structures and conformations of methylbis(methylsilyl)amine and bis(dimethylsilyl)methylamine in the gas phase by electron diffraction, 191–8

Lewis-base adducts of group 1B metal(I) compounds. Part 17. Synthesis and crystal structures of adducts of copper(I) cyanide with nitrogen bases, 839–44

**AMINO ACID**

Enantioselectivity of nickel(II) and copper(II) complexes of Schiff bases derived from amino acids and (*S*)-*o*-[(*N*-benzylpropyl)amino]acetophenone or (*S*)-*o*-[(*N*-

benzylpropyl)amino]benzaldehyde. Crystal and molecular structures of  $[\text{Ni}\{\text{(S)-bap-(S)-Val}\}]$  and  $[\text{Cu}\{\text{(S)-bap-(S)-Val}\}]$ , 17–26

Glycine complexation with uranyl ion: absorptiometric, luminescence, and *X*-ray structural studies of tetrakis-(glycine)dioxouranium(VI) nitrate, 517–22

Studies on the anti-tumour activity of di- and tri-organotin(IV) complexes of amino acids and related compounds, of 2-mercaptoethanesulphonate, and of purine-6-thiol, 523–8

Electron spin resonance parameters for some copper(II)-bis(amino acid) complexes, 1717–8

Synthesis and characterization of some chromium(III) complexes with glutathione, 2085–90

The effect of a dansyl group on the co-ordinative ability of *N*-protected amino acids. Part 1. Behaviour of the copper(II) ion-*N*-dansylglycinate system in aqueous and methanolic solution, 2363–8

**AMINOETHYLAMMONIUM**

Platinum(II) complexes containing a cationic amine ligand: crystal structure of [(2-aminoethyl)ammonium]trichloroplatinum(II), 1057–60

**AMINOLYSIS**

Studies of phosphazenes. Part 21. Associative and dissociative pathways in the aminolysis reactions of halogenocyclotriphosphazenes, 285–90

Studies of phosphazenes. Part 21. Associative and dissociative pathways in the aminolysis reactions of halogenocyclotriphosphazenes (1985, 285), 2459–60

**AMMINE**

Solvent dependence of the stereochemistry of base-catalysed solvolysis of *trans*- $[\text{Co}(\text{NH}_3)_4(^{15}\text{NH}_3)\text{X}]^{3+/2+}$  ions in dipolar aprotic solvents, 659–62

Kinetics and mechanism of the reductions of tris(oxalato)cobaltate(III) ion by ruthenium(II) species in aqueous solution, 1665–8

Linkage isomerism in penta-ammineruthenium(II),(III) complexes of benzotriazole, 2469–72

**AMMONIA**

Spectrochemistry of solutions. Part 16. A Raman spectroscopic study of the complexation of mercury(II) by cyanide ligands in liquid ammonia at 293 K, 663–8

**AMMONIATION**

Steric changes at labelled  $\text{NH}_2$  sites during the base-catalysed ammoniation of the *trans*-azido(dimethyl sulphoxide)bis(ethylenediamine)cobalt(III) ion, 1495–500

Steric changes at labelled  $\text{NH}_2$  sites during the base-catalysed ammoniation of the *trans*-azido(dimethyl sulphoxide)bis(ethylenediamine)cobalt(III) ion, 2223–4

**AMMONIUM**

Co-ordination of alkali metals by open-chain polyethers in transition metal complexes. Part 4. Variation in alkali-metal ion transition in cobalt and zinc complexes of 1-(*o*-carboxymethoxyphenoxy)-2-(*o*-hydroxyphenoxy)ethane (HL) and the *X*-ray and molecular structure of  $[\text{Zn}(\text{NH}_4\text{L}_2)_2]$ , 459–64

**ANILINE**

Transition-metal co-ordination compounds of a novel aniline-based pyrazole derivative. *X*-Ray crystal structures of  $[\text{NN-bis}(3,5\text{-dimethylpyrazol-1-ylmethyl})\text{aminobenzene}]\text{-dichlorocobalt(II)}$  and  $\text{-dibromocopper(II)}$ , 1699–706

**ANTIMONY**

Preparation and characterisation of adducts of bismuth pentafluoride and antimony pentafluoride by vibrational spectroscopy, *X*-ray powder diffraction, and single-crystal *X*-ray crystallography, 9–16

Toluene-3,4-dithiol ( $\text{H}_2\text{tdt}$ ) complexes of Group 5B halides. Observations of lone-pair stereochemical activity and redox behaviour. Crystal and molecular structures of  $[\text{AsCl}(\text{tdt})]$  and  $[\text{PPh}_4][\text{Sb}(\text{tdt})_3]$ , 69–74

*N,N'*-Disubstituted dithiomalonamide complexes of antimony(III). Crystal and molecular structure of  $[\text{SbCl}_3\{\text{C}_2\text{H}_5\text{NHC}(\text{S})\text{CH}_2\text{C}(\text{S})\text{NHC}_2\text{H}_5\}]$  with lone-pair occupation of an antimony co-ordination site, 1073–6

The preparation and crystal structure of  $(\beta)\text{6SbF}_3\cdot\text{5SbF}_5$ , 1623–32  
Synthesis and crystal structure of the layer compound  $\text{Sb}_3\text{TeO}_6\text{Cl}$ , 1633–6

Synthesis and characterisation of new mixed oxides of antimony and tellurium, 2225–30

**ANTIMUSCARINIC AGENT**

Sila-pharmaca. Part 32. Crystal and molecular structures of the

**ANTIMUSCARINIC AGENT (contd)**

(*R*)-enantiomer and the racemate of the antimuscarinic agent (cyclohexyl)phenyl[2-(pyrrolidin-1-yl)ethyl]silanol (sila-procycloclidine), 1743-6

**ANTI-TUMOUR ACTIVITY**

Studies on the anti-tumour activity of di- and tri-organotin(IV) complexes of amino acids and related compounds, of 2-mercaptoethanesulphonate, and of purine-6-thiol, 523-8

**ARENE**

New carbonyl derivatives of niobium(III) and tantalum(III), 1989-96  
Synthesis, structure, and bonding of fulvene complexes of titanium, molybdenum, and tungsten, 2037-50

**ARSENATE**

Preparation of 1,3,2-dithiazolium hexafluoroarsenate(V), preparation and crystal structures of 5-methyl-1,3,2,4-dithiadiazolium and 4-methyl-1,3,2-dithiazolium hexafluoroarsenate(V) and the reduction of these salts to stable free radicals, 1405-16

Crystalline zirconium(IV) hydrogenarsenate hydrogenphosphate monohydrate: synthesis, ion-exchange properties, and thermal behaviour, 1737-42

**ARSINIC**

Toluene-3,4-dithiol ( $H_2tdt$ ) complexes of Group 5B halides. Observations of lone-pair stereochemical activity and redox behaviour. Crystal and molecular structures of  $[AsCl(tdt)]$  and  $[PPh_4][Sb(tdt)_3]$ , 69-74

Purification and X-ray crystal structure of bis[tris(trimethylsilyl)methyl]diarsene, 383-6

A disagreement on the explanation of short and long As-O bonds of the  $(As-O)_4$  ring in  $As_4(CF_3)_6O_6(OH)_2$  in terms of  $As^{III}-O$  and  $As^V-O$  bonds, 2221-2

**ARSINE**

Chemical and structural aspects of silver-triphenylarsine complexes and silver-tin complex salts, 321-32

Crystal structures and interrelationships of the blue and green conformational isomers of tetrakis(trimethylarsine sulphide)cobalt(II) perchlorate, 1289-94

Dirhodium(II,II) tetra-acetate complexes with axially co-ordinated triphenylstibine, triphenylarsine, and dibenzyl sulphide ligands.

The syntheses, properties, and X-ray crystal structures of  $[Rh_2(O_2CMe)_4(SbPh_3)_2]$ ,  $[Rh_2(O_2CMe)_4(AsPh_3)_2]$ , and  $[Rh_2(O_2CMe)_4\{S(CH_2Ph)_2\}_2]$ , 1775-80

Cationic complexes of ruthenium-(II) and -(III) with uni- and polydentate ligands, 2603-8

**ARYL**

From diarylruthenium complexes to *ortho*-metallated ketones: a mechanistic and crystal structure study, 1235-42

Synthetic and nuclear magnetic resonance studies on dialkyl- and diaryl-platinum complexes containing chelating, monodentate, or bridging  $Ph_2PCH_2PPh_2$  ligands, 1501-6

Bimetallic systems. Part 11. Heterobimetallic and unsymmetrical diplatinum complexes from *cis*- $[PtR_2(dppm-P)_2]$

( $dppm = Ph_2PCH_2PPh_2$ ;  $R = Me, 1$ -naphthyl, or  $C_6H_4Me-o$ ): crystal structure of  $[(C_6H_4Me-o)_2Pt(\mu-dppm)_2PtMe_2]$ , 1677-82

Reactivity of  $[NiR(R')L_2]$  compounds and the crystal structure of  $[Ni(C_2Cl_3)(C_6H_3Me_3-2,4,6)(PMe_2Ph)_2]$ , 2333-42

**ARYLSULPHONYL**

Crystal structures and rotameric forms of some diarylsulphonyl-mono-, -di-, and -tri-selanes and their sulphur analogues, 231-8

**ASSOCIATION**

The peroxodisulphate-hexacyanoferrate(II) reaction. Reactivity and ionic association in isodielectric water-co-solvent mixtures, 1975-6

**AZIDE**

X-Ray crystal structures and magnetic properties of azide-bridged binuclear copper(II) complexes containing the Schiff-base ligand derived from 2-pyridinecarbaldehyde and histamine. Structure-magnetism relationship, 2095-100

**AZIRIDINO**

Studies of phosphazenes. Part 25. Synthesis, nuclear magnetic resonance spectroscopy, and mode of formation of (aziridino)(triphenylphosphazeny)cyclotriphosphazenes. X-ray crystal structure and enzyme-inhibiting activity of  $N_3P_3(NPPh_3)(NC_2H_4)_5$ , 1881-90

**BASE CATALYSIS**

Steric changes at labelled  $NH_2$  sites during the base-catalysed ammoniation of the *trans*-azido(dimethyl sulphoxide)bis(ethylenediamine)cobalt(III) ion, 1495-500  
Steric changes at labelled  $NH_2$  sites during the base-catalysed

ammoniation of the *trans*-azido(dimethyl sulphoxide)bis(ethylenediamine)cobalt(III) ion, 2223-4

**BENZAMIDINATE**

Benzamidinorhodium complexes. X-Ray structures of  $[Rh\{CPh(NPh)_2\}(cod)]$  and  $[Rh_2\{\mu-CPh(NPh)_2\}_2(tfbb)_2]$ , 1487-94

**BENZENETHIOLATE**

Crystal structure and spectroscopic and redox properties of the iron-sulphur cluster compound  $[NEt_4]_2[Fe_4S_4(SC_6H_4NH_2-4)_4]$ , 2161-6

Rhenium nitrido-, arylimido-, nitrile, and carbonyl complexes with sterically hindered thiolate ligands, 2305-10

Complexes of molybdenum-(II) and -(IV) and tungsten(II) with sterically hindered thiolate ligands. Synthesis, reactivity, and X-ray crystal structures of  $[PPH_4][Mo(SC_6H_2Pr^i_3-2,4,6)_3(CO)_2]$  and  $[Mo(NNPh)(SC_6H_2Pr^i_3-2,4,6)_3(NCMe)]$ , 2639-46

**BENZIMIDAZOLYL**

Crystal structures and magnetism of binuclear iron(III) complexes with a linear oxo-bridge,  $[Fe_2O(bbimae)_2X_2][NO_3]_2$  { $bbimae = 2$ -[bis(benzimidazol-2-ylmethyl)amino]ethanol,  $X = Cl$  or  $NCS$ }, 2375-80

**BENZOATE**

Crystal and molecular structure and magnetic properties of linear trimeric copper(II) complexes with predominant ferromagnetic exchange interaction, 2609-14

**BENZODIPHOSPHOLE**

Reaction between  $[Ru_3(CO)_{12}]$  and the tridentate phosphine ligand  $HC(PPh_2)_3$ ; X-ray crystal structures of complexes

$[Ru_3(CO)_9\{Ph_2PCHP(Ph)C_6H_4PPh\}]$ ,  $[Ru_2H(CO)_4(Ph_2PCHPPh_2)\{PhPC_6H_4C(O)\}]$ , and  $[Ru_2(CO)_4Cl(PPh_2)(dppm)]$ , 1835-42

**BENZOIN**

Catalytic air oxidation of benzoin in the presence of dioxo-molybdenum(VI) complexes with sulphur chelate ligands, 635-40

**BENZOTRIAZOLE**

Linkage isomerism in penta-ammineruthenium(II),(III) complexes of benzotriazole, 2469-72

**BENZOYL**

Reaction between  $[Ru_3(CO)_{12}]$  and the tridentate phosphine ligand  $HC(PPh_2)_3$ ; X-ray crystal structures of complexes

$[Ru_3(CO)_9\{Ph_2PCHP(Ph)C_6H_4PPh\}]$ ,  $[Ru_2H(CO)_4(Ph_2PCHPPh_2)\{PhPC_6H_4C(O)\}]$ , and  $[Ru_2(CO)_4Cl(PPh_2)(dppm)]$ , 1835-42

**BENZYLAMINE**

Kinetics and mechanism of *ortho*-palladation of ring-substituted *N,N*-dimethylbenzylamines, 2629-38

**BERYLLIUM**

Beryllocene: A microwave dielectric loss study, 1761-6

**BERYLLOCENE**

Beryllocene: A microwave dielectric loss study, 1761-6

**BIBICYCLO-OCTADIENE**

Reduction-oxidation properties of organotransition-metal complexes. Part 20. Oxidative and thermolytic cyclopropane ring-opening reactions; X-ray crystal structure of  $[Fe_2(CO)_6(\eta^4-C_{16}H_{18})]$ , 699-706

**BIPIPERIDINE**

Optical resolution of DL-2,2'-bipiperidine through its cobalt(III) complex, 895-8

**BIPYRIDINE**

Light-induced electron-transfer reactions. Part 3. Kinetics of the oxidation reaction of oxalate ion by peroxodisulphate ion, induced by irradiation with visible light of an aqueous solution containing tris(2,2'-bipyridine)ruthenium(II), 355-60

The extraction and transport of metal ions by 6,6'-diamino-2,2'-bipyridine derivatives, 373-8

Cyclopalladated derivatives of 2,4'-bipyridine, 1719-22

Magnetic circular dichroism spectra of tris-chelate complexes of 2,2'-bipyridyl and 1,10-phenanthroline with iron(II), ruthenium(II), and osmium(II) at 4.2 K, 1781-8

New photoreduction catalysis by  $[Cu(N-N)(PPh_3)_2]^+$  ( $N-N = 2,9$ -dimethyl-1,10-phenanthroline or 4,4',6,6'-tetramethyl-2,2'-bipyridine) and its application to cobalt(III) complexes, 1959-62

Preparation and characterisation of 2,2'-bipyridine-4,4'-disulphonic and -5-sulphonic acids and their ruthenium(II) complexes.

Excited-state properties and excited-state electron-transfer reactions of ruthenium(II) complexes containing 2,2'-bipyridine-4,4'-disulphonic acid or 2,2'-bipyridine-4,4'-dicarboxylic acid, 2247-62

Influence of decreasing solvent polarity (dioxane-water mixtures)

**BIPYRIDINE** (contd)

on the stability and structure of binary and ternary complexes of adenosine 5'-triphosphate and uridine 5'-triphosphate, 2291-304

**BIPYRIDYL**

Lewis-base adducts of Group 1B metal(I) compounds. Part 13. Crystal structure determinations of tetrakis(triphenyl-phosphine)-copper(I) and -silver(I) perchlorates, bis(pyridine)bis(triphenylphosphine)copper(I) perchlorate, (2,2'-bipyridyl)bis(triphenylphosphine)copper(I) perchlorate, and tetrahydroboratobis(triphenylphosphine)copper(I)-pyridine (1/0.5), 125-34

Electron-transfer reactions from *cis*-dialkylbis(2,2'-bipyridyl)cobalt(III) complexes to organic oxidants, 899-904

Actinide structural studies. Part 7. The crystal and molecular structures of (2,2'-bipyridyl)dinitratodioxo-uranium(VI) and -neptunium(VI), and diacetato(2,2'-bipyridyl)dioxo-uranium(VI) and -neptunium(VI), 1001-8

Absorption and emission in tris(2,2'-bipyridyl)ruthenium(II); effects of excited-state asymmetry, 1081-6

**BISQUINOLINE**

Characterization of the adducts formed by Cu(CN) and Cu(NCS) with bisquinoline. The crystal structure of the polymeric cyanocompound containing both linear and tetrahedrally co-ordinated copper(I),  $[\{Cu_3(bq)_2(CN)_3\}_n]$ , 1285-8

**BIS(DIPHENYLPHOSPHINO)METHANIDE**

Synthesis of trinuclear gold(I) and gold(III) complexes containing the tridentate bis(diphenylphosphino)methanide ligand. Crystal structure of  $[Cl(C_6F_5)_2Au\{Ph_2PCH(AuNC_5H_5)PPh_2\}AuCl]$ , 2417-20

**BISMUTH**

Preparation and characterisation of adducts of bismuth pentafluoride and antimony pentafluoride by vibrational spectroscopy, X-ray powder diffraction, and single-crystal X-ray crystallography, 9-16

Kinetics and mechanism of electron-transfer reactions of bismuth(V) in aqueous acidic perchlorate-fluoride media. Part 1. Oxidation of hypophosphorous acid, 2571-4

**BORANE**

Photoelectron spectra of the aminodifluoroboranes  $NH_2BF_2$ ,  $NHMeBF_2$ , and  $NMe_2BF_2$ , 1767-70

**BORON**

A kinetic study of the gas-phase thermolysis of hexaborane(10), 541-8

Carborane derivatives of the late- and post-transition elements. Part 3. Structural consequences of ligand substitution in palladadicarbododecaboranes 3- $L_2$ -3,1,2-PdC<sub>2</sub>B<sub>9</sub>H<sub>11</sub>. The crystal and molecular structures of 3- $[Me_2N(CH_2)_2NMe_2]$ -3,1,2-PdC<sub>2</sub>B<sub>9</sub>H<sub>11</sub> and 3-(PMe<sub>2</sub>)<sub>2</sub>-3,1,2-PdC<sub>2</sub>B<sub>9</sub>H<sub>11</sub>, 761-70

Reactions of 6,6'-bis(*nido*-decaboranyl) oxide and 6-hydroxy-*nido*-decaborane with dihalogenobis(phosphine) complexes of nickel, palladium, and platinum, and some related chemistry; nuclear magnetic resonance investigations and the crystal and molecular structures of bis(dimethylphosphine)-di- $\mu$ -(2,3,4- $\eta^3$ -*nido*-hexaboranyl)-diplatinum(*Pt-Pt*),  $[Pt_2(\mu-\eta^3-B_6H_9)_2(PMe_2Ph)_2]$ , and of 2,4-dichloro-1,1-bis(dimethylphenylphosphine)-*cis*-1-nickeladecaborane,  $[(PhMe_2P)_2NiB_9H_9Cl_2]$ , 953-72

Polyhedral rhenaborane chemistry: crystal and molecular structures of the *nido*-6-rhenadecaborane cluster compounds  $[6,6,6,6-(PMe_2Ph)_3H-nido-6-ReB_9H_{13}]$  and  $[2-(PMe_2Ph)-6,6,6,6-(PMe_2Ph)_2ClH-nido-6-ReB_9H_{12}]$ ; nuclear magnetic resonance parameters of these and other related *nido*-rhenadecaborane cluster species, 1119-30

Studies of 2,5,6,10,8,10-tri- $\mu$ -hydro-nonahydro-*nido*-nonaborate(1-),  $[B_9H_{12}]^-$ : preparation, crystal and molecular structure, nuclear magnetic resonance spectra, electrochemistry, and reactions, 1645-54

Contributions to the chemistry of boron. Part 160. A convenient synthesis of catecholatorane and diborane, 1689-92

Photoelectron spectra of the aminodifluoroboranes  $NH_2BF_2$ ,  $NHMeBF_2$ , and  $NMe_2BF_2$ , 1767-70

Electronic structures of the *cis*-thiaboranes 1-SB<sub>9</sub>H<sub>9</sub> and 1-SB<sub>11</sub>H<sub>11</sub>. Electrophilic substitution in 1-SB<sub>9</sub>H<sub>9</sub>, 2591-4

**BORON-11**

Bis(triphenylphosphine)copper(I) derivatives of substituted *arachno* nine-vertex borane anions,  $Cu(PPh_3)_2(B_9H_{13}X)$  (X = H, NCS, NCS<sub>e</sub>, NCBPh<sub>3</sub>, NCBH<sub>3</sub>, or NCBH<sub>2</sub>NCBH<sub>3</sub>), 1903-8

**BROMIDE**

Lewis-base adducts of Group 1B metal(I) compounds. Part 11. Synthesis and crystal structure of adducts of silver(I) bromide

with monomethyl-substituted pyridine bases, 111-6  
Bromine nuclear quadrupole resonance studies of some hexabromostannates: X-Ray crystal structure of pyridinium hexabromostannate(IV),  $[Hpy]_2[SnBr_6]$ , 1399-404

Reactivity of  $[NBu_4]_2[Mo_2Br_6]$  with several uni- and poly-dentate phosphines. X-Ray structure of  $[NBu_4][MoBr_4(Ph_2PCH_2CH_2PPh_2)]$ , 2263-8

**BUTENYLPEROXO**

Routes of formation and crystal structure of an alkylperoxycobaloxime: bis[*dimethylglyoximate*(1-)](4-ethoxycarbonylbut-3-en-2-ylperoxo)(pyridine)cobalt(III), 1997-2000

**BUTYL**

Determination of the molecular structures of tri(*t*-butyl)phosphine oxide and tri(*t*-butyl)phosphine imide in the gas phase by electron diffraction, 827-30

**CADMIUM**

Electron spin resonance spectra of manganese(II) ions in the double-stranded chain polymers  $CdLX_2$  (L = pyridine or methylpyridine; X = Cl or Br), 75-80

Thermochemical data for adducts of zinc, cadmium, and mercury halides with hexamethylphosphoramide, 1103-6

Unidentate *versus* symmetrically and unsymmetrically bidentate nitrate co-ordination in pyrazole-containing chelates. The crystal and molecular structures of (nitrate-*O*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]copper(II) nitrate, (nitrate-*O,O'*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]nickel(II) nitrate, and (nitrate-*O*)(nitrate-*O,O'*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]cadmium(II), 2177-84

**CAGE**

Phosphorus-phosphorus bond cleavage in the cage molecule  $P_4S_3$ : synthesis and crystal structure of the trinuclear platinum complex  $[\{Pt(\mu-P_4S_3)(PPh_3)\}_3] \cdot C_6H_6$ , 291-6

**CALCIUM**

Metal-phenoxyalkanoic acid interactions. Part 13. Copper(II)-(2-chlorophenoxy)ethanoic acid complexes. Crystal and molecular structures of *catena*-tetra- $\mu$ -[(2-chlorophenoxy)ethanoato-*O,O'*]-dicopper(II), *catena*-(2-aminopyrimidine-*N,N'*)-tetra- $\mu$ -[(2-chlorophenoxy)ethanoato-*O,O'*]-dicopper(II), and 1,2,2,2-penta-aqua-tetra- $\mu$ -[(2-chlorophenoxy)ethanoato-*O,O'*]-copper(II)calcium(II), 243-52

On the possibility of determining the thermodynamic parameters for the formation of weak complexes using a simple model for the dependence on ionic strength of activity coefficients:  $Na^+$ ,  $K^+$ , and  $Ca^{2+}$  complexes of low molecular weight ligands in aqueous solution, 2353-62

**CALORIMETRY**

Zinc-sulphur bond enthalpy: its determination in bis(diethylthiocarbamato)zinc(II), 369-72

**CARBENE**

Carbene complexes. Part 18. Synthetic routes to electron-rich olefin-derived monocarbenerhodium(I) neutral and cationic complexes and their chemical and physical properties (1984, 2355), 229-30  
Sulphur-containing metal complexes. Part 14. Reactions of carbene anions with carbon disulphide or carbon diselenide, 1963-6

**CARBIDE**

New carbide clusters in the cobalt subgroup. Part 13. Synthesis and chemical characterization of the anions  $[Co_6C(CO)_{14}]^-$ ,  $[Co_6C(CO)_{15}]^{2-}$ , and  $[Co_8C(CO)_{18}]^{2-}$ , and crystal structure of  $\mu_6$ -carbido-*ennea*- $\mu$ -carbonyl-hexacarbonyl-*polyhedro*-hexacobaltate(2-) as its benzyltrimethylammonium salt; a comparison with isostructural species, 35-42

New carbide clusters in the cobalt sub-group. Part 14. Synthesis and structural characterization of the anion  $[Co_{13}C_2(CO)_{24}]^{3-}$  as its benzyltrimethylammonium salt, 1137-40

New carbide clusters in the cobalt sub-group. Part 15. Synthesis and crystallographic characterization of di- $\mu_6$ -carbido-deca- $\mu$ -carbonyl-tridecacarbonyl-*polyhedro*-dodecacobaltate(4-) as its tetrapropylammonium salt,  $[N(C_3H_7)_4]_4[Rh_{12}C_2(CO)_{23}]$ , 1309-14

Reactions of some decaosmium clusters with electrophilic and nucleophilic reagents: X-ray structure analyses of  $[N(PPh_3)_2][Os_{10}C(CO)_{24}(\mu-I)_2]$ ,  $[Os_{10}C(CO)_{24}(\mu-I)_2]$ ,  $[N(PPh_3)_2][Os_{10}C(CO)_{22}(NO)_2]$ ,  $[Os_{10}C(CO)_{23}\{P(OMe)_3\}(\mu-I)_2]$  and of two isomers of  $[Os_{10}C(CO)_{21}\{P(OMe)_3\}_4]$ , 1795-810

Synthesis of tetra- and penta-nuclear platinum-osmium carbido-cluster complexes from non-carbido-precursors: X-ray structural studies on  $[Os_3Pt(\mu-H)_2(\mu_4-C)(CO)_{10}\{P(cyclo-C_6H_{11})_3\}]$ ,  $[Os_3Pt_2(\mu-H)_2(\mu_5-C)(\mu-CO)(CO)_9\{P(cyclo-C_6H_{11})_3\}_2]$ , and

**CARBIDE** (contd)

$[\text{Os}_3\text{Pt}_2(\mu\text{-H})(\mu_5\text{-C})(\mu\text{-OMe})(\mu\text{-CO})(\text{CO})_9\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}_2]$ , 2437-48

**CARBON-13**

Two-dimensional nuclear magnetic resonance for the analysis of the carbon-13 spectra of carbonyl groups in metallocarbonyls, 225-8

Mercurated and tellurated Schiff bases and phenylhydrazones, 821-6

Geometry-dependent complexation effects in carbon-13 nuclear magnetic resonance spectra of tricarbonyl(3-8- $\eta$ -[2.2]paracyclophane)chromium and related complexes, 1065-8

Geometry-dependent carbon-13 chemical shifts in  $\eta^6$ -[2.2]cyclophane( $\eta^5$ -cyclopentadienyl)iron(II) hexafluorophosphates, 1661-4

Carbon-13 nuclear magnetic resonance evidence of a relaxation process dominated by scalar coupling with a quadrupolar nucleus in  $[\text{Re}_3(\mu\text{-H})_4(\text{CO})_{10}]^-$ , 1899-902

Carbon-13 nuclear magnetic resonance study of the complexes formed between zinc(II) and triethylenetetramine, 2381-6

**CARBONATE**

Chemistry of metallacyclobutanones. Part 3. Reactions of heptane-2,4,6-trione and 1,5-diphenylpentane-1,3,5-trione with some carbonate complexes of platinum(II); X-ray crystal structures of

$[\text{Pt}\{\text{CH}(\text{COMe})\text{COCH}(\text{COMe})\}(\text{PPh}_3)_2]$  and

$[\text{Pt}\{\text{OC}(\text{CHCOPh})\text{CHC}(\text{PhO})\}(\text{PPh}_3)_2]$ , 549-54

**CARBON DIOXIDE**

Insertion of carbon dioxide, of  $\text{CO}_2$ -like molecules, and of other unsaturated compounds into the platinum-nitrogen bond of  $[\text{Pt}(\text{PPh}_3)_2(\text{PhNO})]$ , 163-8

**CARBON DISELENIDE**

Sulphur-containing metal complexes. Part 14. Reactions of carbene anions with carbon disulphide or carbon diselenide, 1963-6

**CARBON DISULPHIDE**

Bimetallic systems. Part 10. Synthesis of complexes of type  $[(\text{RC}=\text{C})\text{Pt}(\mu\text{-dppm})_2\text{Pt}(\text{C}=\text{CR})]$  (dppm =  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$ , R = Ph or *p*-tolyl) and their corresponding 'A frames'

$[(\text{RC}=\text{C})\text{Pt}(\mu\text{-dppm})_2(\mu\text{-H})\text{Pt}(\text{C}=\text{CR})\text{Cl}]$  or  $[(\text{RC}=\text{C})\text{Pt}(\mu\text{-dppm})_2(\mu\text{-X})\text{Pt}(\text{C}=\text{R})]$  with X =  $\text{CS}_2$  or  $\text{MeOCC}=\text{CCOOMe}$ , 1015-8

Sulphur-containing metal complexes. Part 14. Reactions of carbene anions with carbon disulphide or carbon diselenide, 1963-6

Fragmentation of co-ordinated carbon disulphide and dithiocarbene ligands by nucleophilic attack at carbon: the crystal structure of  $[(\text{Ph}_3\text{P})\text{IPt}(\mu\text{-SMe})(\mu\text{-CSMe})\text{Pt}(\text{PPh}_3)]_2\cdot\text{Me}_2\text{CO}$ , 2595-602

**CARBON MONOXIDE**

Rate parameters for oxygen and carbon monoxide binding to a liposome-embedded heme under physiological conditions, 65-8

Equilibrium and kinetic study of the reaction between phthalocyaninatoiron(II) and carbon monoxide in dimethyl sulphoxide in the presence of pyridine. Evidence for the formation of a transient, 1113-8

The easy catalytic reduction of  $\text{HClO}_4$ ,  $\text{HNO}_3$ , and  $\text{H}_5\text{IO}_6$  by CO in the presence of  $[\text{Pd}_3(\text{O}_2\text{CMe})_6]$ , 1971-4

Selective conversion of CO into methanol at ordinary temperature.

Part 4. Activation by iron(II), iron(III), and chromium(III) complexes, 2499-504

**CARBONYL**

New carbide clusters in the cobalt subgroup. Part 13. Synthesis and chemical characterization of the anions  $[\text{Co}_6\text{C}(\text{CO})_{14}]^-$ ,  $[\text{Co}_6\text{C}(\text{CO})_{15}]^{2-}$ , and  $[\text{Co}_6\text{C}(\text{CO})_{18}]^{2-}$ , and crystal structure of  $\mu_6$ -carbido-enea- $\mu$ -carbonyl-hexacarbonyl-polyhedro-hexacobaltate(2-) as its benzyltrimethylammonium salt; a comparison with isostructural species, 35-42

Metallation of 2-ethenylpyridine at trisium clusters: X-ray crystal structures of the open trinuclear clusters

$[\text{Os}_3\text{H}(\text{CO})_9\text{L}(\text{NC}_5\text{H}_4\text{CH}=\text{CH})]$  (L = CO or  $\text{PMe}_2\text{Ph}$ ), 85-90

Reaction of bis- $\mu$ -diethylphosphido-bis(tetracarbonylmetal) (*M-M*) (M = Cr or W) with tri-*n*-butylphosphine: kinetics and mechanism of a reaction involving seven-co-ordinate complexes, 91-8

Chemistry of the unsaturated cluster compound  $[\text{Os}_3\text{Pt}(\mu\text{-H})_2(\text{CO})_{10}\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}]$ ; X-ray crystal structures of  $[\text{Os}_3\text{Pt}(\mu\text{-H})_2(\text{CO})_{11}\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}]$ ,  $[\text{Os}_3\text{Pt}(\mu\text{-H})_4(\text{CO})_{10}\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}]$ , and  $[\text{Os}_3\text{Pt}(\mu\text{-H})_2(\mu\text{-CH}_2)(\text{CO})_{10}\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}]$  (two isomers), 177-90

Two-dimensional nuclear magnetic resonance for the analysis of the carbon-13 spectra of carbonyl groups in metallocarbonyls, 225-8

The preparation and hydridic reduction of dicationic dicarbonyl complexes of osmium(II); the crystal and molecular structure of

*trans*-bis[1,2-bis(diphenylphosphino)ethane-*PP'*]carbonylformylosmium(II) hexafluoroantimonate-dichloromethane (1/1), 387-94

Systematic synthesis of tetranuclear osmium clusters by the reaction of trinuclear clusters with  $[\text{OsH}_2(\text{CO})_4]$ ; crystal structure of  $[\text{Os}_4\text{H}_3\text{Br}(\text{CO})_{13}]$ , 555-64

Synthesis and X-ray structural studies on the cluster compounds  $[\text{RuRh}_3(\mu_3\text{-CO})_2(\text{CO})_3(\eta\text{-C}_5\text{Me}_5)_3]$  and  $[\text{RuRh}_2(\mu\text{-CO})(\mu_3\text{-CO})(\text{CO})_2(\eta^4\text{-C}_8\text{H}_{10})(\eta\text{-C}_5\text{Me}_5)_2]$ , 645-50

Synthesis of  $[\text{Fe}(\eta^4\text{-C}_8\text{H}_8)(\text{CO})_2\text{L}]$  [L = MeNC, Pr'NC, Bu'NC, PhNC, 2,6-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>NC, or  $\text{P}(\text{OMe})_3$ ] and proof of the applicability of the Woodward-Hoffmann rules to the fluxionality of  $[\text{Fe}(\eta^4\text{-C}_8\text{H}_8)(\text{CO})_2(\text{CNPr}')]$ , 693-8

Reduction-oxidation properties of organotransition-metal complexes. Part 20. Oxidative and thermolytic cyclopropane ring-opening reactions; X-ray crystal structure of  $[\text{Fe}_2(\text{CO})_6(\eta^4\text{-C}_{16}\text{H}_{18})]$ , 699-706

Electrochemistry of clusters. Part 4. Redox behaviour of tetrametallic clusters  $[\text{M}^1_2\text{M}^2_2(\eta^2\text{-C}_5\text{H}_4)_2(\mu_3\text{-CO})_2(\mu\text{-CO})_4(\text{PR}_3)_2]$  (M<sup>1</sup> = Pt or Pd; M<sup>2</sup> = Cr, Mo, or W; R = Me, Et, Bu<sup>n</sup>, or Ph), 711-6

The addition of protic acids to  $[\text{Mn}_2(\text{CO})_5(\text{Ph}_2\text{PCH}_2\text{PPh}_2)_2]$  to give bridging hydrido-compounds, 743-8

Annulation of ring-opened arylcyclopropenium ions to co-ordinated cyclo-octatetraene, and the X-ray crystal structure of  $[\text{Fe}(\text{CO})_3(\sigma\text{-}\eta^3\text{-C}_{11}\text{H}_9\text{Ph}_3)]$ , 777-82

Formation of substituted cyclopentadienyl ligands on tungsten *via* reactions between the alkyne complexes  $[\text{W}(\text{CO})(\text{R}^1\text{C}_3\text{R}^2)_3]$  (R<sup>1</sup> = R<sup>2</sup> = Ph or Et; R<sup>1</sup> = Me, R<sup>2</sup> = Ph) and the alkyldiene compounds  $[\text{W}(\equiv\text{CR})(\text{CO})_2(\eta\text{-C}_5\text{H}_5)]$  (R = C<sub>6</sub>H<sub>4</sub>Me-4 or Me); X-ray crystal structures of  $[\text{W}_2(\mu\text{-CO})_2(\text{CO})(\eta\text{-PhC}_2\text{Ph})(\eta\text{-C}_5\text{Ph}_4\text{R})(\eta\text{-C}_5\text{H}_5)]$  and  $[\text{W}_2(\mu\text{-EtC}_2\text{Et})(\text{CO})_4(\eta\text{-C}_5\text{Et}_4\text{R})(\eta\text{-C}_5\text{H}_5)]$  (R = C<sub>6</sub>H<sub>4</sub>Me-4), 905-12

Reaction of transition-metal carbonylate anions and 1,1,1-tris(halogenomethyl)ethane. X-ray crystal structures of tricarbonyl( $\eta^5$ -cyclopentadienyl)(1-methylcyclopropylmethyl)tungsten(II), and tetraethylammonium enneacarbonyliodirhenate(O), 931-40

Pyrazolate A-frame rhodium complexes. Crystal structures of  $[\text{Rh}_2(\mu\text{-dmpz})(\text{CO})_2(\mu\text{-dppm})_2][\text{ClO}_4]$  and  $[\text{Rh}_2(\mu\text{-dmpz})_2(\text{CO})_2(\mu\text{-dppm})_2][\text{ClO}_4]$ , 973-80

Bimetallic systems. Part 9. The synthesis of and nuclear magnetic resonance studies on 10-membered ring complexes of type  $[(\text{OC})_4\text{M}^1(\mu\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)_2\text{M}^2(\text{CO})_4]$  (M<sup>1</sup>, M<sup>2</sup> = Cr, Mo, or W), 1009-14

Reduction-oxidation properties of organotransition-metal complexes. Part 21. Synthesis and X-ray structural characterisation of the redox-related pair of cyclohexadienyl complexes  $[\text{Mn}(\text{CO})(\text{dppe})(\eta^2\text{-C}_6\text{H}_6\text{Ph})]$  and  $[\text{Mn}(\text{CO})(\text{dppe})(\eta^5\text{-C}_6\text{H}_6\text{Ph})][\text{PF}_6] \cdot 0.5\text{CH}_2\text{Cl}_2$ , 1019-26

Reduction-oxidation properties of organotransition-metal complexes. Part 22. Stereospecific oxidative cyclopropane ring opening and reductive cyclobutane ring formation in polycyclic hydrocarbon complexes of iron; X-ray crystal structures of  $[\text{Fe}_2(\text{CO})_6(\eta^5\text{-}\eta^2\text{-C}_{16}\text{H}_{16})][\text{PF}_6]_2 \cdot \text{CH}_3\text{NO}_2$  and  $[\text{Fe}_2(\text{CO})_6(\eta^4\text{-}\eta^4\text{-C}_{16}\text{H}_{16})]$ , 1027-36

New isomers of  $[\text{Os}_3(\text{CO})_{10}(\text{PMe}_2\text{Ph})_2]$  and  $[\text{Os}_3(\text{CO})_9(\text{PMe}_2\text{Ph})_3]$ , 1037-42

Mechanism of addition of aryltrimethyl-silanes and -stannanes to tricarbonyl(cyclohexadienyl)ruthenium(II) cation, 1049-52

Geometry-dependent complexation effects in carbon-13 nuclear magnetic resonance spectra of tricarbonyl(3-8- $\eta$ -[2.2]paracyclophane)chromium and related complexes, 1065-8

Carbon-carbon formation at di-iron centres. Part 2. Reactivity of  $[\text{Fe}_2(\text{CO})_6(\mu\text{-COEt})(\mu\text{-C}(\text{R})\text{C}(\text{R})\text{H})]$  complexes toward  $\text{MeOC}(\text{O})\text{C}=\text{CC}(\text{O})\text{OMe}$  (R = Ph) and  $\text{CF}_3\text{C}=\text{CCF}_3$  (R = Ph or H); X-ray crystal structures of  $[\text{Fe}_2(\text{CO})_5\{\mu\text{-C}(\text{OEt})\text{C}(\text{O})\text{OMe}\}[\text{C}(\text{O})\text{OMe}]]$ ,  $[\mu\text{-C}(\text{Ph})\text{C}(\text{Ph})\text{H}]] \cdot \text{H}_2\text{O}$  and  $[\text{Fe}_2(\text{CO})_6\{\mu\text{-C}(\text{CF}_3)\text{C}(\text{CF}_3)\text{CHCH}(\text{OMe})\}]$ , 1087-94

New carbide clusters in the cobalt subgroup. Part 14. Synthesis and structural characterization of the anion  $[\text{Co}_{13}\text{C}_2(\text{CO})_{24}]^{3-}$  as its benzyltrimethylammonium salt, 1137-40

Isolated CH stretching frequencies, methyl group geometry, and methyl CH bond lengths and strengths in tricarbonyl( $\eta^5$ -cyclopentadienyl)methylchromium(II), -molybdenum(II), and -tungsten(II), 1207-12

A mechanistic study on complexes of type *mer*- $[\text{Cr}(\text{CO})_3(\eta^2\text{-L-L})(\sigma\text{-L-L})]$  (where L-L =  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$ ,  $\text{Ph}_2\text{PNHPPPh}_2$ , or  $\text{Ph}_2\text{PNMePPh}_2$ ) using spectroscopic and convolutive

## CARBONYL (contd)

- electrochemical techniques, 1213–22
- Cluster chemistry. Part 31. An  $[\text{Ru}_3(\text{CO})_{12}]$  derivative with an  $[\text{Fe}_3(\text{CO})_9]$ -like structure: preparation and X-ray structure of  $[\text{Ru}_3(\mu\text{-CO})_2(\text{CO})_6\{\text{PPh}(\text{OMe})_2\}_4]$ , 1223–8
- Cluster chemistry. Part 32. Synthesis and X-ray crystal structure of  $[\text{Ru}_3(\mu_5\text{-}\eta^2\text{-C}_2\text{PPh}_2\text{-P})(\mu\text{-PPh}_2)(\text{CO})_{13}]$ , a complex containing an alkynyl ligand in extended interaction with an open  $\text{Ru}_3$  cluster, 1229–34
- Electron-transfer reactions in nitrogen fixation. Part 1. The electrosynthesis of dinitrogen, hydride, isocyanide, and carbonyl complexes of molybdenum: intermediates, mechanisms, and energetics, 1255–64
- Synthesis, structures, and reactivities of some pentamethylcyclopentadienyl-sulphur compounds, 1303–8
- New carbide clusters in the cobalt sub-group. Part 15. Synthesis and crystallographic characterization of di- $\mu_6$ -carbido-deca- $\mu$ -carbonyl-tridecacarbonyl-polyhedro-dodecarhodate(4–) as its tetrapropylammonium salt,  $[\text{N}(\text{C}_3\text{H}_7)_4]_4[\text{Rh}_{12}\text{C}_2(\text{CO})_{23}]$ , 1309–14
- Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 33. Reactions of  $[\text{W}(\equiv\text{CMe})(\text{CO})_2(\eta\text{-C}_5\text{H}_5)]$  with the dimetal compounds  $[\text{MRh}(\mu\text{-CO})_2(\eta\text{-C}_5\text{Me}_5)_2]$  ( $\text{M} = \text{Co}$  or  $\text{Rh}$ ); X-ray crystal structure of  $[\text{Rh}_2\text{W}(\mu\text{-CO})(\mu_3\text{-CMe})(\text{CO})_2(\eta\text{-C}_5\text{H}_5)(\eta\text{-C}_5\text{Me}_5)]$ , 1315–22
- Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 34. Reactions of sulphur and selenium with the di-irontungsten complexes  $[\text{Fe}_2\text{W}(\mu_3\text{-CR})(\mu\text{-CO})(\text{CO})_8(\eta\text{-C}_5\text{H}_5)]$  ( $\text{R} = \text{C}_6\text{H}_4\text{Me-4}$  or  $\text{Me}$ ); crystal structures of  $[\text{Fe}_2\text{W}(\mu\text{-CC}_6\text{H}_4\text{Me-4})(\mu_3\text{-S})(\text{CO})_7(\eta\text{-C}_5\text{H}_5)]$  and  $[\text{Fe}_2\text{W}(\mu_3\text{-SCMe})(\text{CO})_8(\eta\text{-C}_5\text{H}_5)]$ , 1323–30
- Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 35. The synthesis and crystal structures of the compounds  $[\text{N}(\text{PPh}_3)_2][\text{W}_2\{\mu\text{-C}(\text{H})\text{C}_6\text{H}_4\text{Me-4}\}(\text{CO})_7(\eta\text{-C}_5\text{H}_5)]\cdot 0.5\text{Et}_2\text{O}$  and  $[\text{W}\{\mu\text{-C}(\text{H})\text{C}_6\text{H}_4\text{Me-4}\}(\text{SnPh}_3)(\text{CO})_2(\eta\text{-C}_5\text{H}_5)]$ , 1331–8
- The reaction of  $[\text{Os}_3(\mu\text{-H})_2(\text{CO})_9\text{L}]$  ( $\text{L} = \text{CO}$  or  $\text{PEt}_3$ ) with dimethylcyanamide,  $\text{Me}_2\text{NCN}$ : X-Ray crystal structure of  $[\text{Os}_3(\mu\text{-H})(\mu\text{-NCHNMe}_2)(\text{CO})_{10}]$  and the reactions of this complex with acids, 1355–60
- Photochemistry of dicarbonyl( $\eta^5$ -cyclopentadienyl)-methyl- and -ethyl-iron and -ruthenium complexes in solutions at  $-30^\circ\text{C}$  and in frozen gas matrices at 12 K, 1365–74
- Reactivity of the unsaturated anion decacarbonyltetra- $\mu$ -hydrido-trirhenate(1–) toward phenols. Crystal and molecular structures of the tetraethylammonium salts of the triangular cluster anion  $[\text{Re}_3(\mu\text{-H})_3(\mu\text{-OC}_6\text{F}_5)(\text{CO})_{10}]^-$  and of the binuclear anion  $[\text{Re}_2(\mu\text{-OC}_6\text{H}_5)_3(\text{CO})_9]^-$ , 1507–12
- Pyramidal inversions and 1,2-metal shifts in pentacarbonyl-chromium, -molybdenum, and -tungsten derivatives of dialkyl disulphides and dialkyl diselenides. A nuclear magnetic resonance investigation, 1561–8
- Dynamic nuclear magnetic resonance study of Group 6 metal pentacarbonyl complexes. Pyramidal inversion and 1,2-metal shifts in the complexes  $[\text{M}(\text{CO})_5(\text{Me}_2\text{CCH}_2\text{EECH}_2)]$  ( $\text{M} = \text{Cr}$ ,  $\text{Mo}$ , or  $\text{W}$ ;  $\text{E} = \text{S}$  or  $\text{Se}$ ), 1569–76
- Synthesis of bis[ $\mu$ -bis(diphenylphosphino)methane]-tri- $\mu$ -carbonyl-tricarbonyl-*triangulo*-trirhodium(1+) perchlorate,  $[\text{Rh}_3(\text{CO})_3(\mu\text{-CO})_3(\mu\text{-dppm})_2]\text{ClO}_4$ . An unusual 46-electron cluster possessing the A-frame structure with a bridging  $\text{Rh}(\text{CO})_3$  fragment, 1577–84
- Addition of proton and boron trifluoride at terminal and bridging cyano-ligands in dinuclear manganese compounds, 1609–12
- Synthesis and structural characterisation of some *triangulo*-platinum clusters containing isocyanide ligands, 1693–8
- Studies on the regioselective preparation of tricarbonyl(cyclohexadienyl)iron(1+) salts, 1723–6
- Reactions of some decaosmium clusters with electrophilic and nucleophilic reagents: X-ray structure analyses of  $[\text{N}(\text{PPh}_3)_2][\text{Os}_{10}\text{C}(\text{CO})_{24}(\mu\text{-I})]$ ,  $[\text{Os}_{10}\text{C}(\text{CO})_{24}(\mu\text{-I})_2]$ ,  $[\text{N}(\text{PPh}_3)_2]_2[\text{Os}_{10}\text{C}(\text{CO})_{22}(\text{NO})\text{I}]$ ,  $[\text{Os}_{10}\text{C}(\text{CO})_{23}\{\text{P}(\text{OMe})_3\}(\mu\text{-I})_2]$  and of two isomers of  $[\text{Os}_{10}\text{C}(\text{CO})_{21}\{\text{P}(\text{OMe})_3\}_4]$ , 1795–810
- Reactions of hydride reagents with alkylmolybdenum carbonyl complexes. Reaction of  $\text{LiBHEt}_3$  with  $[\text{MoMe}(\text{CO})_3(\eta\text{-C}_5\text{H}_5)]$ , formation of an anionic acetaldehyde complex, and a stoichiometric cycle for the synthesis of acetaldehyde, 1815–20
- Reaction between  $[\text{Ru}_3(\text{CO})_{12}]$  and the tridentate phosphine ligand  $\text{HC}(\text{PPh}_2)_3$ ; X-ray crystal structures of complexes  $[\text{Ru}_3(\text{CO})_9\{\text{Ph}_2\text{PCHP}(\text{Ph})\text{C}_6\text{H}_4\text{PPh}\}]$ ,  $[\text{Ru}_2\text{H}(\text{CO})_4(\text{Ph}_2\text{PCHPPh}_2)\{\text{PhPC}_6\text{H}_4\text{C}(\text{O})\}]$ , and  $[\text{Ru}_2(\text{CO})_4\text{Cl}(\text{PPh}_2)(\text{dppm})]$ , 1835–42
- 1*H*-pyrrolo[2,3-*b*]pyridine (HL) ligands in rhodium(i) and iridium(i) chemistry. Crystal and molecular structures of  $[\text{Rh}_2(\mu\text{-L})_2(\text{nbd})_2]$  and  $[\text{Rh}_4(\mu\text{-Cl})_2(\mu\text{-L})_2(\mu\text{-CO})_2(\text{CO})_2(\text{nbd})_2]$ , 1891–8
- Carbon-13 nuclear magnetic resonance evidence of a relaxation process dominated by scalar coupling with a quadrupolar nucleus in  $[\text{Re}_3(\mu\text{-H})_4(\text{CO})_{10}]^-$ , 1899–902
- Organic chemistry of dinuclear metal centres. Part 8. Organo-iron-ruthenium chemistry. X-Ray structure of *trans*- $[\text{FeRu}(\text{CO})_2(\mu\text{-CO})_2(\eta\text{-C}_5\text{H}_5)_2]$ , 1935–44
- Sulphur-containing metal complexes. Part 14. Reactions of carbene anions with carbon disulphide or carbon disulfide, 1963–6
- Reactivity of  $[\text{PPh}_4][\text{Fe}_2(\text{CO})_6\{\mu\text{-CPhCPhC}(\text{CF}_3)\text{C}(\text{CF}_3)\text{H}\}]$  toward electrophiles. X-Ray structure of  $[\text{Fe}_2(\text{CO})_6\{\mu\text{-CPhCPhC}(\text{CF}_3)\text{CHC}(\text{OEt})_2\}]$ , a product resulting from fluorine abstraction at a  $\text{CF}_3$  group and subsequent fluorine substitution by ethoxy-groups, 1981–4
- New carbonyl derivatives of niobium(i) and tantalum(i), 1989–96
- Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 36. Reactions of the dimetal compounds  $[\text{ReM}(\equiv\text{CC}_6\text{H}_4\text{Me-4})(\text{CO})_9]$  ( $\text{M} = \text{Cr}$ ,  $\text{Mo}$ , or  $\text{W}$ ) with octacarbonyldicobalt; crystal structures of  $[\text{Co}_2\text{WRe}(\mu_3\text{-CC}_6\text{H}_4\text{Me-4})(\text{CO})_{15}]$  and  $[\text{Co}_2\text{Re}(\mu_3\text{-CC}_6\text{H}_4\text{Me-4})(\text{CO})_{10}]$ , 2001–8
- Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 37. Methylene group transfer to carbonyl multiple bonds; crystal structures of  $[\text{TiW}\{\mu\text{-C}(\text{C}_6\text{H}_4\text{Me-4})=\text{CH}_2\}(\mu\text{-CO})(\text{CO})(\eta\text{-C}_5\text{H}_5)_3]$  and  $[\text{PtW}\{\mu\text{-C}(\text{C}_6\text{H}_4\text{Me-4})=\text{CH}_2\}(\text{CO})_2(\text{PMe}_3)_2(\eta\text{-C}_5\text{H}_5)]$ , 2009–16
- Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 38. Ruthenium-tungsten compounds: crystal structures of  $[\text{RuW}(\mu\text{-Cl})(\mu\text{-CMe})(\text{Cl})(\text{CO})_2(\text{PPh}_3)_2(\eta\text{-C}_5\text{H}_5)]$  and  $[\text{RuW}_2(\mu_3\text{-C}_2\text{Me}_2)(\text{CO})_7(\eta\text{-C}_5\text{H}_5)_2]$ , 2017–24
- Bimetallic systems. Part 13. Platinum-manganese carbonyl complexes containing bridging  $\text{Ph}_2\text{PCH}_2\text{PPh}_2(\text{dppm})$  ligands: crystal structure of  $[(\text{OC})_3\text{Mn}(\mu\text{-dppm})_2\text{PtH}(\text{Br})\text{BF}_4]$ , 2131–8
- Pyramidal inversion in configurational isomers of tetracarbonyl[1,1,2,2-tetrakis(methylthio)ethane]chromium(0): a two-dimensional nuclear magnetic resonance exchange study, 2195–202
- Co-ordinatively unsaturated diene complexes of tungsten(ii) and their reactions with nucleophiles to give six- and seven-coordinate derivatives, 2231–8
- Synthesis and nuclear magnetic resonance studies of co-ordinatively unsaturated alkyne complexes of tungsten(ii), 2239–46
- The palladium-catalysed reaction between  $[\text{Re}_2(\text{CO})_{10}]$  and phosphines and the crystal and molecular structure of diaxial  $[\text{Re}_2(\text{CO})_8(\text{PMe}_2\text{Ph})_2]$ , 2277–82
- Synthesis of tetra- and penta-nuclear platinum-osmium carbido-cluster complexes from non-carbido-precursors: X-ray structural studies on  $[\text{Os}_3\text{Pt}(\mu\text{-H})_2(\mu_4\text{-C})(\text{CO})_{10}\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}]$ ,  $[\text{Os}_3\text{Pt}_2(\mu\text{-H})_2(\mu_5\text{-C})(\mu\text{-CO})(\text{CO})_9\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}_2]$ , and  $[\text{Os}_3\text{Pt}_2(\mu\text{-H})(\mu_5\text{-C})(\mu\text{-OMe})(\mu\text{-CO})(\text{CO})_9\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}_2]$ , 2437–48
- Acid-induced displacement of acetaldehyde from a  $\mu$ -vinyloxy-triosmium cluster, 2479–82
- Reactions of co-ordinated ligands. Part 35. Evidence for carbon-carbon double-bond cleavage of cyclopropenes in their reaction with dinuclear cobalt, rhodium, and iridium complexes; crystal structure and protolysis of  $[\text{Rh}_2(\mu\text{-CO})(\mu\text{-COCHCMe}_2\text{CH})(\mu\text{-C}_5\text{Me}_5)_2]$ , 2483–92
- The  $[\text{Fe}_3(\mu_3\text{-CR})(\text{CO})_{10}]^-$  cluster anions as building blocks for the synthesis of mixed-metal clusters. Part 1. Synthesis of mixed clusters  $[\text{MFe}_3(\mu_3\text{-CMe})(\text{CO})_{10}(\text{PPh}_3)]$  ( $\text{M} = \text{Cu}$  or  $\text{Au}$ ) and crystal structure of  $[\text{CuFe}_3(\mu_3\text{-CMe})(\text{CO})_{10}(\text{PPh}_3)]$ , 2521–4
- Interactions of  $[\text{Mo}(\text{CO})_6]$  and  $[\text{Mo}(\text{CO})_2(\text{C}_6\text{H}_5\text{CH}_3)_2]$  with  $\text{O}_2\text{N}_2$ - and  $\text{O}_2\text{N}_3$ -donor macrocycles and the X-ray crystal structure of tetracarbonyl(6,7,16,17-tetrahydro-15*H*-dibenzo[*e,h*][1,4,8,12]dioxadiazacyclopentadecene)molybdenum-toluene (2/1), 2561–4
- He I and He II photoelectron spectra of open-chain pentadienyl complexes of manganese and rhenium, 2677–82
- CARBOXYLATE**
- Complexes of the platinum metals. Part 23. Synthesis of the nitrosyl carboxylate complexes  $[\text{M}(\text{O}_2\text{CR})_2(\text{NO})(\text{PPh}_3)_2]$  ( $\text{M} = \text{Rh}$  or  $\text{Ir}$ ;  $\text{R} = \text{CF}_3$ ,  $\text{C}_2\text{F}_5$ , or  $\text{C}_6\text{F}_5$ ); crystal and molecular structures of the trifluoroacetate derivatives  $[\text{M}(\text{O}_2\text{CCF}_3)_2(\text{NO})(\text{PPh}_3)_2]$ ,

**CARBOXYLATE** (contd)

611-6

Complexes of the platinum metals. Part 26. Multinuclear nuclear magnetic resonance studies on rhodium(II) carboxylate adducts, 629-34

Complexes of the platinum metals. Part 30. Fragmentation reactions of rhodium and iridium trichloro- and tribromoacetates, 2113-20

The synthesis, magnetic, electrochemical, and spectroscopic properties of diruthenium(II,II) tetra- $\mu$ -carboxylates and their adducts. X-Ray structures of  $\text{Ru}_2(\text{O}_2\text{CR})_4\text{L}_2$  (R = Me, L =  $\text{H}_2\text{O}$  or tetrahydrofuran; R = Et, L =  $\text{Me}_2\text{CO}$ ), 2321-6

**CATALYSIS**

Heteropolytungstates as catalysts for the photochemical reduction of oxygen and water, 395-400

Kinetic and structural investigations of

$[\text{Fe}^{\text{III}}(\text{edta})]^-$  [edta = ethylenediaminetetraacetate(4-)]

catalysed decomposition of hydrogen peroxide, 493-502

Catalytic air oxidation of benzoin in the presence of dioxomolybdenum(VI) complexes with sulphur chelate ligands, 635-40

Mono- $\eta$ -cycloheptatrienyltitanium chemistry: synthesis, molecular and electronic structures, and reactivity of the complexes  $[\text{Ti}(\eta\text{-C}_7\text{H}_7)\text{L}_2\text{X}]$  (L = tertiary phosphine, O- or N-donor ligand; X = Cl or alkyl), 669-84

Studies on cyclic bis( $\eta^5$ : $\sigma$ -2-cyclopentadienyldiene-ethyl)- and bis( $\eta^5$ : $\sigma$ -4-cyclopentadienyldienebutyl)-molybdenum compounds, 1585-90

Oxygenation studies. Part 7. Catalytic dioxygenation of cyclo-octa-1,5-diene at a rhodium centre, 1591-6

The chemistry and catalytic properties of ruthenium and osmium complexes. Part 1. Homogeneous catalysis of organic reactions by bromo(carbonyl)hydridotris(triphenylphosphine)osmium(II), 1859-64

Crystal structures and magnetic properties of binuclear five-coordinate copper(II) complexes with a phenolate bridge and their catalytic functions in multielectron redox reactions, 1945-52

New photoreduction catalysis by  $[\text{Cu}(\text{N}-\text{N})(\text{PPh}_3)_2]^+$  (N-N = 2,9-dimethyl-1,10-phenanthroline or 4,4',6,6'-tetramethyl-2,2'-bipyridine) and its application to cobalt(III) complexes, 1959-62

The easy catalytic reduction of  $\text{HClO}_4$ ,  $\text{HNO}_3$ , and  $\text{H}_3\text{IO}_6$  by CO in the presence of  $[\text{Pd}_3(\text{O}_2\text{CMe})_6]$ , 1971-4

The palladium-catalysed reaction between  $[\text{Re}_2(\text{CO})_{10}]$  and phosphines and the crystal and molecular structure of diaxial  $[\text{Re}_2(\text{CO})_8(\text{PMe}_2\text{Ph})_2]$ , 2277-82

Selective conversion of CO into methanol at ordinary temperature.

Part 4. Activation by iron(II), iron(III), and chromium(III) complexes, 2499-504

**CATECHOLATE**

Contributions to the chemistry of boron. Part 160. A convenient synthesis of catecholoborane and diborane, 1689-92

**CATENADI(AZATHIANE)**

Reaction of the anion  $[\text{WCl}_4(\text{CBu}')^-]$  with tetrasulphur tetranitride. Formation and crystal structure of  $[\text{AsPh}_4][\text{WCl}_3\text{O}(\text{OS}_2\text{N}_2)]$ , 2453-6

**C.D.**

Correlation between structure and circular dichroism. Structure and absolute configuration of the (-) isomer of lithium (ethylenediamine-*N,N'*-diacetato-*N,N'*-di-3-propionato)rhodate(III) pentahydrate, 861-4

**CHARGE TRANSFER**

Synthesis and characterization of a new family of binuclear copper(II) complexes with a flexible bridge and the  $\pi$ - $\pi$  type charge-transfer interaction with 1,3,5-trinitrobenzene, 107-10

Reaction of bis(morpholiniothiocarbonyl) disulphide with iodine.

Existence of a 1:1 charge-transfer precursory adduct in an oxidation reaction. Isolation and crystal structure of bis[3,5-di(*N*-morpholinio)-1,2,4-trithiolane] hexadecafluoride, 1349-54

**CHEMICAL POTENTIAL**

Transfer chemical potentials for  $\text{Fe}^{2+}$  from water into aqueous methanol: a comment, 867-6

Transfer chemical potentials for  $\text{Fe}^{2+}$  from water into aqueous methanol: a reply, 867-70

**CHIRALITY**

Co-ordinative interactions in chelated complexes of silicon. Part 5.

Chirality of five-coordinate silicon compounds: crystal and molecular structures of 1-(chlorodimethylsilyl)- and 1-

(dichloromethylsilyl)-1,2,3,4-tetrahydro-1,10-phenanthroline, 1-4

Macrocyclic polyphosphane ligands. Cobalt(II) and nickel(II)

complexes of the  $\gamma$  and  $\epsilon$  diastereoisomers of 4,7,13,16-tetraphenyl-4,7,13,16-tetraphospha-1,10-dithiacyclo-octadecane ( $\text{L}^1$ ) and the crystal structure of  $[\text{Co}(\epsilon\text{-L}^1)][\text{BPh}_4]_2 \cdot \text{EtOH}$ , 1425-30

**CHLORIDE**

The kinetics of the displacement, by chloride, of heterocyclic nitrogen bases (am) from *trans*- $[\text{PtL}(\text{am})\text{Cl}_2]$  (L =  $\text{C}_2\text{H}_4$ , CO, or  $\text{PMe}_3$ ). The effect of steric hindrance in the leaving group on the *trans* effect of L, 27-30

Sulphur ligand-metal complexes. Part 16. Copper complexes of thioethers and the single-crystal X-ray structure of the polymeric mixed-valence complex, penta- $\mu$ -chloro-tris- $\mu$ -tetrahydrothiophene-tetracopper(II,II), 151-8

X-Ray crystal structures and properties of tris(tetrafluorvalenium) tetrachlorodimethylstannate(IV) and tetrathiafulvalenium trichlorodimethylstannate (IV), 465-70

Displacement of pyridine-2-methanol from dichloro(pyridine-2-methanolato)gold(III) in acidic solution. Ring opening at oxygen, 731-6

Electrochemically induced ligand substitutions on  $[\text{OsCl}_3(\text{PMe}_2\text{Ph})_3]$ : rational pathways to osmium(II) complexes, 947-52

Dinuclear mono- $\mu$ -chloro-pyridyldiaza rhodium(I) complexes derived from pyridyldi-imines *via* hydrogen transfer from ethanol, 1053-6

Platinum(II) complexes containing a cationic amine ligand: crystal structure of [(2-aminoethyl)ammonium]trichloroplatinum(II), 1057-60

Preparation and crystal structure of  $\text{Na}_4[\text{Hg}_4(\mu\text{-Cl})_4\{\text{P}(\text{O})(\text{OEt})_2\}_8] \cdot 6\text{H}_2\text{O}$ , 1061-4

Tetrachlorobis(tetrahydrofuran)molybdate(III), a new intermediate for the synthesis of molybdenum(III) complexes: preparation and crystal structure, 1069-72

*N,N'*-Disubstituted dithiomalonamide complexes of antimony(III).

Crystal and molecular structure of

$[\text{SbCl}_3(\text{C}_2\text{H}_5\text{NHC}(\text{S})\text{CH}_2\text{C}(\text{S})\text{NHC}_2\text{H}_5)]$  with lone-pair occupation of an antimony co-ordination site, 1073-6

The crystal structure of diaquadi-chlorodimethyltin(IV)-purine (1/4), 1271-4

Homo- and hetero-dinuclear hydride-bridged complexes containing cyclo-octadiene: the crystal and molecular structure of  $[(\eta^4\text{-C}_8\text{H}_{12})\text{Ir}(\mu\text{-H})(\mu\text{-Cl})\text{IrH}_2(\text{PPh}_3)_2]$ , 1277-80

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 38. Ruthenium-tungsten compounds: crystal structures of  $[\text{RuW}(\mu\text{-Cl})(\mu\text{-CMe})(\text{Cl})(\text{CO})_2(\text{PPh}_3)_2](\eta\text{-C}_5\text{H}_5)]$  and  $[\text{RuW}_2(\mu_3\text{-C}_2\text{Me}_2)(\text{CO})_7(\eta\text{-C}_5\text{H}_5)_2]$ , 2017-24

A novel pentameric hydrolysis product of  $\text{SnMe}_2\text{Cl}_2$ : crystal and molecular structure of  $[\text{NH}_4^+][\text{SnMe}_2\text{Cl}_2\text{O}_3]^-$ , 2683-6

**CHLORINE TRIOXIDE**

Chlorine trioxide,  $\text{Cl}_2\text{O}_6$ , a most efficient perchlorating reagent in new syntheses of anhydrous metal perchlorates, chloryl and nitryl perchloratometalates of cobalt(II), nickel(II), and copper(II). Reactivity of chlorine trioxide with anhydrous or hydrated chlorides and nitrates, 297-306

**CHROMIUM**

Reaction of bis- $\mu$ -diethylphosphido-bis(tetracarbonylmetal) (*M-M*) (M = Cr or W) with tri-*n*-butylphosphine: kinetics and mechanism of a reaction involving seven-coordinate complexes, 91-8

Characterisation of chromium(VI) oxide tetrafluoride,  $\text{CrOF}_4$ , and caesium pentafluoro-oxochromate(VI)  $\text{Cs}[\text{CrOF}_5]$ , 529-34

Synthesis and characterisation of 1,2-bis(dimethylphosphino)ethane (dmpe) complexes of chromium(0) and -(IV): X-ray crystal structures of *trans*- $\text{Cr}(\text{N}_2)_2(\text{dmpe})_2$ , *cis*- $\text{Cr}(\text{CO})_2(\text{dmpe})_2$ ,  $\text{Cr}(\text{C}_2\text{Ph}_2)_2(\text{dmpe})$ , and  $\text{CrH}_4(\text{dmpe})_2$ , 685-92

Difluorophosphate complexes of chromium, manganese, iron, cobalt, and nickel, 707-10

Electrochemistry of clusters. Part 4. Redox behaviour of tetrametallic clusters  $[\text{M}^1_2\text{M}^2_2(\eta^5\text{-C}_5\text{H}_5)_2(\mu_3\text{-CO})_2(\mu\text{-CO})_4(\text{PR}_3)_2]$  ( $\text{M}^1 = \text{Pt}$  or  $\text{Pd}$ ;  $\text{M}^2 = \text{Cr}$ ,  $\text{Mo}$ , or  $\text{W}$ ; R = Me, Et, Bu<sup>n</sup>, or Ph), 711-6

Bimetallic systems. Part 9. The synthesis of and nuclear magnetic resonance studies on 10-membered ring complexes of type  $[(\text{OC})_4\text{M}^1(\mu\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)_2\text{M}^2(\text{CO})_4]$  ( $\text{M}^1, \text{M}^2 = \text{Cr}$ ,  $\text{Mo}$ , or  $\text{W}$ ), 1009-14

Geometry-dependent complexation effects in carbon-13 nuclear magnetic resonance spectra of tricarbonyl(3-8- $\eta$ -[2.2]paracyclophane)chromium and related complexes, 1065-8

Isolated CH stretching frequencies, methyl group geometry, and

**CHROMIUM (contd)**

methyl CH bond lengths and strengths in tricarbonyl( $\eta^5$ -cyclopentadienyl)methylchromium(II), -molybdenum(II), and -tungsten(II), 1207-12

A mechanistic study on complexes of type *mer*-[Cr(CO)<sub>3</sub>( $\eta^2$ -L-L)( $\sigma$ -L-L)] (where L-L = Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>, Ph<sub>2</sub>PNHPPPh<sub>2</sub>, or Ph<sub>2</sub>PNMePPh<sub>2</sub>) using spectroscopic and convolutive electrochemical techniques, 1213-22

Spectroscopic studies on the higher binary fluorides of chromium: CrF<sub>4</sub>, CrF<sub>5</sub>, and CrF<sub>6</sub>, both in the solid state and isolated in inert gas matrices, 1443-50

Pyramidal inversions and 1,2-metal shifts in pentacarbonyl-chromium, -molybdenum, and -tungsten derivatives of dialkyl disulphides and dialkyl diselenides. A nuclear magnetic resonance investigation, 1561-8

Dynamic nuclear magnetic resonance study of Group 6 metal pentacarbonyl complexes. Pyramidal inversion and 1,2-metal shifts in the complexes [M(CO)<sub>5</sub>(Me<sub>2</sub>CCH<sub>2</sub>EECH<sub>2</sub>)] (M = Cr, Mo, or W; E = S or Se), 1569-76

Sulphur-containing metal complexes. Part 14. Reactions of carbene anions with carbon disulphide or carbon diselenide, 1963-6

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 36. Reactions of the dimetal compounds [ReM( $\equiv$ CC<sub>6</sub>H<sub>4</sub>Me-4)(CO)<sub>6</sub>] (M = Cr, Mo, or W) with octacarbonyldicobalt; crystal structures of [Co<sub>2</sub>WRe( $\mu_3$ -CC<sub>6</sub>H<sub>4</sub>Me-4)(CO)<sub>15</sub>] and [Co<sub>2</sub>Re( $\mu_3$ -CC<sub>6</sub>H<sub>4</sub>Me-4)(CO)<sub>10</sub>], 2001-8

Synthesis and characterization of some chromium(III) complexes with glutathione, 2085-90

Pyramidal inversion in configurational isomers of tetracarbonyl[1,1,2,2-tetrakis(methylthio)ethane]chromium(0): a two-dimensional nuclear magnetic resonance exchange study, 2195-202

Selective conversion of CO into methanol at ordinary temperature. Part 4. Activation by iron(II), iron(III), and chromium(III) complexes, 2499-504

Magnetic and spectroscopic properties of some heterotrinnuclear basic acetates of chromium(III), iron(III), and divalent metal ions, 2509-20

**CIRCULAR DICHROISM**

Optically active co-ordination compounds. Part 43. Polysulphide complexes of platinum(IV), 253-8

**CLUSTER**

New carbide clusters in the cobalt subgroup. Part 13. Synthesis and chemical characterization of the anions [Co<sub>6</sub>C(CO)<sub>14</sub>]<sup>2-</sup>, [Co<sub>6</sub>C(CO)<sub>13</sub>]<sup>2-</sup>, and [Co<sub>6</sub>C(CO)<sub>18</sub>]<sup>2-</sup>, and crystal structure of  $\mu_6$ -carbido-enea- $\mu$ -carbonyl-hexacarbonyl-*polyhedro*-hexacobaltate(2-) as its benzyltrimethylammonium salt; a comparison with isostructural species, 35-42

Metallation of 2-ethenylpyridine at trisium clusters: X-ray crystal structures of the open trinnuclear clusters

[Os<sub>3</sub>H(CO)<sub>9</sub>L(NC<sub>5</sub>H<sub>4</sub>CH=CH)] (L = CO or PMe<sub>2</sub>Ph), 85-90

Chemistry of the unsaturated cluster compound [Os<sub>3</sub>Pt( $\mu$ -H)<sub>2</sub>(CO)<sub>10</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}]<sup>+</sup>; X-ray crystal structures of [Os<sub>3</sub>Pt( $\mu$ -H)<sub>2</sub>(CO)<sub>11</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}]<sup>+</sup>, [Os<sub>3</sub>Pt( $\mu$ -H)<sub>4</sub>(CO)<sub>10</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}]<sup>+</sup>, and [Os<sub>3</sub>Pt( $\mu$ -H)<sub>2</sub>( $\mu$ -CH<sub>2</sub>)(CO)<sub>10</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}]<sup>+</sup> (two isomers), 177-90

The synthesis of NR<sub>4</sub>[(Ta<sub>6</sub>Cl<sub>12</sub>)(H<sub>2</sub>O)<sub>6</sub>]X<sub>4</sub> (R = Me or Et, X = Cl or Br) by the spontaneous reduction of [Ta<sub>6</sub>Cl<sub>12</sub>]<sup>4+</sup> to [Ta<sub>6</sub>Cl<sub>12</sub>]<sup>3+</sup> in acidic media: X-ray structure analysis of NMe<sub>4</sub>[(Ta<sub>6</sub>Cl<sub>12</sub>)(H<sub>2</sub>O)<sub>6</sub>]Br<sub>4</sub>, 455-8

Systematic synthesis of tetranuclear osmium clusters by the reaction of trinuclear clusters with [OsH<sub>2</sub>(CO)<sub>4</sub>]; crystal structure of [Os<sub>4</sub>H<sub>3</sub>Br(CO)<sub>13</sub>], 555-64

Synthesis and X-ray structural studies on the cluster compounds [RuRh<sub>3</sub>( $\mu_3$ -CO)<sub>2</sub>(CO)<sub>3</sub>( $\eta$ -C<sub>5</sub>Me<sub>5</sub>)<sub>3</sub>] and [RuRh<sub>2</sub>( $\mu$ -CO)( $\mu_3$ -CO)(CO)<sub>2</sub>( $\eta^4$ -C<sub>8</sub>H<sub>10</sub>)( $\eta$ -C<sub>5</sub>Me<sub>5</sub>)<sub>2</sub>], 645-50

Electrochemistry of clusters. Part 4. Redox behaviour of tetrametallic clusters [M<sup>1</sup><sub>2</sub>M<sup>2</sup>( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>( $\mu_3$ -CO)<sub>2</sub>( $\mu$ -CO)<sub>4</sub>(PR<sub>2</sub>)<sub>2</sub>] (M<sup>1</sup> = Pt or Pd; M<sup>2</sup> = Cr, Mo, or W; R = Me, Et, Bu<sup>n</sup>, or Ph), 711-6

Spectroscopic and magnetic properties of cobalt(II) and nickel(II) clusters obtained from 1-(hydroxymethyl)-3,5-dimethylpyrazole.

X-Ray structure of tetrakis[chloro( $\mu_3$ -3,5-dimethyl-N-oxymethylpyrazolato-N<sup>2</sup>, $\mu_3$ -O)(ethanol)nickel(II)] 737-42

Lewis-base adducts of group IB metal(I) compounds. Part 16. Synthesis, structure, and solid-state phosphorus-31 nuclear magnetic resonance spectra of some novel [Cu<sub>4</sub>X<sub>4</sub>L<sub>4</sub>] (X =

halogen, L = N,P base) 'cubane' clusters, 831-8

Interconversion of 42- and 44-electron platinum *triangulo*-clusters using chelating tertiary phosphine ligands and the structural characterisation of [1,3-bis(diphenylphosphino)propane]-tris( $\mu$ -sulphur dioxide)bis(tricyclohexylphosphino)tri(1,3,5-triazine)-benzene (1/2), [Pt<sub>3</sub>( $\mu$ -SO<sub>2</sub>)<sub>3</sub>{P(C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}<sub>2</sub>(dpppp)]<sub>2</sub>·2C<sub>6</sub>H<sub>6</sub>, 845-50

New isomers of [Os<sub>3</sub>(CO)<sub>10</sub>(PMe<sub>2</sub>Ph)<sub>2</sub>] and [Os<sub>3</sub>(CO)<sub>9</sub>(PMe<sub>2</sub>Ph)<sub>3</sub>], 1037-42

New carbide clusters in the cobalt sub-group. Part 14. Synthesis and structural characterization of the anion [Co<sub>13</sub>C<sub>2</sub>(CO)<sub>24</sub>]<sup>3-</sup> as its benzyltrimethylammonium salt, 1137-40

Cluster chemistry. Part 31. An [Ru<sub>3</sub>(CO)<sub>12</sub>] derivative with an [Fe<sub>3</sub>(CO)<sub>12</sub>]-like structure: preparation and X-ray structure of [Ru<sub>3</sub>( $\mu$ -CO)<sub>2</sub>(CO)<sub>6</sub>{PPh(OMe)<sub>2</sub>]<sub>4</sub>], 1223-8

Cluster chemistry. Part 32. Synthesis and X-ray crystal structure of [Ru<sub>5</sub>( $\mu_5$ - $\eta^2$ -C<sub>2</sub>PPh<sub>2</sub>-P)( $\mu$ -PPh<sub>2</sub>)(CO)<sub>13</sub>], a complex containing an alkynyl ligand in extended interaction with an open Ru<sub>5</sub> cluster, 1229-34

Synthesis, structures, and reactivities of some pentamethylcyclopentadienyl-sulphur compounds, 1303-8

New carbide clusters in the cobalt sub-group. Part 15. Synthesis and crystallographic characterization of di- $\mu_6$ -carbido-deca- $\mu$ -carbonyl-tridecacarbonyl-*polyhedro*-dodecarhodate(4-) as its tetrapropylammonium salt, [N(C<sub>3</sub>H<sub>7</sub>)<sub>4</sub>]<sub>4</sub>·[Rh<sub>12</sub>C<sub>2</sub>(CO)<sub>23</sub>], 1309-14

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 33. Reactions of [W( $\equiv$ CMe)(CO)<sub>2</sub>( $\eta$ -C<sub>5</sub>H<sub>5</sub>)] with the dimetal compounds [MRh( $\mu$ -CO)<sub>2</sub>( $\eta$ -C<sub>5</sub>Me<sub>5</sub>)<sub>2</sub>] (M = Co or Rh); X-ray crystal structure of [Rh<sub>2</sub>W( $\mu$ -CO)( $\mu_3$ -CMe)(CO)<sub>2</sub>( $\eta$ -C<sub>5</sub>H<sub>5</sub>)( $\eta$ -C<sub>5</sub>Me<sub>5</sub>)<sub>2</sub>], 1315-22

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 34. Reactions of sulphur and selenium with the di-irontungsten complexes [Fe<sub>2</sub>W( $\mu_3$ -CR)( $\mu$ -CO)(CO)<sub>8</sub>( $\eta$ -C<sub>5</sub>H<sub>5</sub>)] (R = C<sub>6</sub>H<sub>4</sub>Me-4 or Me); crystal structures of [Fe<sub>2</sub>W( $\mu$ -CC<sub>6</sub>H<sub>4</sub>Me-4)( $\mu_3$ -S)(CO)<sub>7</sub>( $\eta$ -C<sub>5</sub>H<sub>5</sub>)] and [Fe<sub>2</sub>W( $\mu_3$ -SCMe)(CO)<sub>8</sub>( $\eta$ -C<sub>5</sub>H<sub>5</sub>)], 1323-30

The reaction of [Os<sub>3</sub>( $\mu$ -H)<sub>2</sub>(CO)<sub>9</sub>L] (L = CO or PEt<sub>3</sub>) with dimethylcyanamide, Me<sub>2</sub>NCN: X-Ray crystal structure of [Os<sub>3</sub>( $\mu$ -H)( $\mu$ -NCHNMe<sub>2</sub>)(CO)<sub>10</sub>] and the reactions of this complex with acids, 1355-60

Reactivity of the unsaturated anion decacarbonyltetra- $\mu$ -hydrido-trirhenate(1-) toward phenols. Crystal and molecular structures of the tetraethylammonium salts of the triangular cluster anion [Re<sub>3</sub>( $\mu$ -H)<sub>3</sub>( $\mu$ -OC<sub>6</sub>F<sub>5</sub>)(CO)<sub>10</sub>]<sup>-</sup> and of the binuclear anion [Re<sub>2</sub>( $\mu$ -OC<sub>6</sub>H<sub>5</sub>)<sub>3</sub>(CO)<sub>6</sub>]<sup>-</sup>, 1507-12

The synthesis of NR<sub>4</sub>[(Ta<sub>6</sub>Cl<sub>12</sub>)(H<sub>2</sub>O)<sub>6</sub>]X<sub>4</sub> (R = Me or Et, X = Cl or Br) by the spontaneous reduction of [Ta<sub>6</sub>Cl<sub>12</sub>]<sup>4+</sup> to [Ta<sub>6</sub>Cl<sub>12</sub>]<sup>3+</sup> in acidic media: X-ray structure analysis of NMe<sub>4</sub>[(Ta<sub>6</sub>Cl<sub>12</sub>)(H<sub>2</sub>O)<sub>6</sub>]Br<sub>4</sub> (1985, 455), 1531-2

Synthesis of bis[ $\mu$ -bis(diphenylphosphino)methane]-tri- $\mu$ -carbonyl-tricarbonyl-*triangulo*-trirhodium(1+) perchlorate, [Rh<sub>3</sub>(CO)<sub>3</sub>( $\mu$ -CO)<sub>3</sub>( $\mu$ -dppm)<sub>2</sub>]ClO<sub>4</sub>. An unusual 46-electron cluster possessing the A-frame structure with a bridging Rh(CO)<sub>3</sub> fragment, 1577-84

Synthesis and structural characterisation of some *triangulo*-platinum clusters containing isocyanide ligands, 1693-8

Reactions of some decaosmium clusters with electrophilic and nucleophilic reagents: X-ray structure analyses of [N(PPh<sub>3</sub>)<sub>2</sub>][Os<sub>10</sub>C(CO)<sub>24</sub>( $\mu$ -I)], [Os<sub>10</sub>C(CO)<sub>24</sub>( $\mu$ -I)<sub>2</sub>], [N(PPh<sub>3</sub>)<sub>2</sub>][Os<sub>10</sub>C(CO)<sub>22</sub>(NO)]<sup>+</sup>, [Os<sub>10</sub>C(CO)<sub>23</sub>{P(OMe)<sub>3</sub>( $\mu$ -I)<sub>2</sub>}] and of two isomers of [Os<sub>10</sub>C(CO)<sub>21</sub>{P(OMe)<sub>3</sub>]<sub>4</sub>], 1795-810

Studies of gold cluster compounds using high-resolution <sup>31</sup>P solid-state nuclear magnetic resonance spectroscopy, 1811-4

Carbon-13 nuclear magnetic resonance evidence of a relaxation process dominated by scalar coupling with a quadrupolar nucleus in [Re<sub>3</sub>( $\mu$ -H)<sub>4</sub>(CO)<sub>10</sub>]<sup>-</sup>, 1899-902

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 36. Reactions of the dimetal compounds [ReM( $\equiv$ CC<sub>6</sub>H<sub>4</sub>Me-4)(CO)<sub>6</sub>] (M = Cr, Mo, or W) with octacarbonyldicobalt; crystal structures of [Co<sub>2</sub>WRe( $\mu_3$ -CC<sub>6</sub>H<sub>4</sub>Me-4)(CO)<sub>15</sub>] and [Co<sub>2</sub>Re( $\mu_3$ -CC<sub>6</sub>H<sub>4</sub>Me-4)(CO)<sub>10</sub>], 2001-8

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 38. Ruthenium-tungsten compounds: crystal structures of [RuW( $\mu$ -Cl)( $\mu$ -CMe)(Cl)(CO)<sub>2</sub>(PPh<sub>3</sub>)<sub>2</sub>( $\eta$ -C<sub>5</sub>H<sub>5</sub>)] and [RuW( $\mu_3$ -C<sub>2</sub>Me<sub>2</sub>)(CO)<sub>7</sub>( $\eta$ -C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>], 2017-24

Crystal structure and spectroscopic and redox properties of the iron-sulphur cluster compound [NET<sub>4</sub>]<sub>2</sub>[Fe<sub>4</sub>S<sub>4</sub>(SC<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>-4)<sub>4</sub>],



## CLUSTER (contd)

2161-6

Synthesis of tetra- and penta-nuclear platinum-osmium carbido-cluster complexes from non-carbido-precursors: *X*-ray structural studies on  $[\text{Os}_3\text{Pt}(\mu\text{-H})_2(\mu_4\text{-C})(\text{CO})_{10}\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}]$ ,  $[\text{Os}_3\text{Pt}_2(\mu\text{-H})_2(\mu_5\text{-C})(\mu\text{-CO})(\text{CO})_9\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}_2]$ , and  $[\text{Os}_3\text{Pt}_2(\mu\text{-H})(\mu_5\text{-C})(\mu\text{-OMe})(\mu\text{-CO})(\text{CO})_9\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}_2]$ , 2437-48

Acid-induced displacement of acetaldehyde from a  $\mu$ -vinyloxy-triosmium cluster, 2479-82

The  $[\text{Fe}_3(\mu_3\text{-CR})(\text{CO})_{10}]^-$  cluster anions as building blocks for the synthesis of mixed-metal clusters. Part 1. Synthesis of mixed clusters  $[\text{MFe}_3(\mu_3\text{-CMe})(\text{CO})_{10}(\text{PPh}_3)]$  ( $\text{M} = \text{Cu}$  or  $\text{Au}$ ) and crystal structure of  $[\text{CuFe}_3(\mu_3\text{-CMe})(\text{CO})_{10}(\text{PPh}_3)]$ , 2521-4

## COBALAMIN

A new electron spin resonance spectrum for an exchange- and dipole-dipole coupled superoxocobalamin  $\cdots$  free-radical pair occurring in adenosylcobalamin-containing systems, 891-4

Self-association of organocobalamins in aqueous solution, 1381-6

## COBALOXIME

Routes of formation and crystal structure of an alkylperoxycobaloxime: bis[*dimethylglyoximate*(1-)](4-ethoxy-carbonylbut-3-en-2-ylperoxy)(pyridine)cobalt(III), 1997-2000

## COBALT

New carbide clusters in the cobalt subgroup. Part 13. Synthesis and chemical characterization of the anions  $[\text{Co}_6\text{C}(\text{CO})_{14}]^-$ ,  $[\text{Co}_6\text{C}(\text{CO})_{15}]^{2-}$ , and  $[\text{Co}_8\text{C}(\text{CO})_{18}]^{2-}$ , and crystal structure of  $\mu_6$ -carbido-ennea- $\mu$ -carbonyl-hexacarbonyl-*polyhedro*-hexacobaltate(2-) as its benzyltrimethylammonium salt; a comparison with isostructural species, 35-42

Chlorine trioxide,  $\text{Cl}_2\text{O}_6$ , a most efficient perchlorating reagent in new syntheses of anhydrous metal perchlorates, chloryl and nityl perchloratometalates of cobalt(II), nickel(II), and copper(II). Reactivity of chlorine trioxide with anhydrous or hydrated chlorides and nitrates, 297-306

Ligand substitution on (*N,N*-dimethylformamide)[2,2',2''-tri(*N,N*-dimethylamino)triethylamine]cobalt(II), 413-6

Co-ordination of alkali metals by open-chain polyethers in transition metal complexes. Part 4. Variation in alkali-metal ion selectivity in cobalt and zinc complexes of 1-(*o*-carboxymethoxyphenoxy)-2-(*o*-hydroxyphenoxy)ethane (HL) and the *X*-ray and molecular structure of  $[\text{Zn}(\text{NH}_4\text{L}_2)_2]$ , 459-64

Proton exchange and base hydrolysis of *syn,anti-cis*-dichloro(1,4,7,10-tetra-azacyclododecane)cobalt(III) cations, 475-8

Macrocyclic polyphosphane ligands. Iron(II), cobalt(II), and nickel(II) complexes of (4*RS*,7*RS*,13*SR*,16*SR*)-tetraphenyl-1,10-dipropyl-1,10-diaza-4,7,13,16-tetraphosphacyclo-octadecane: crystal structures of their tetraphenylborate derivatives, 479-86

Synthesis and characterization of several mononuclear cobalt(IV) dithiocarbamates,  $[\text{Co}(\text{S}_2\text{CNRR}')_3]\text{ClO}_4$  [ $\text{R} = \text{R}' = \text{Me}$ , Et, or  $\text{CH}_2\text{Ph}$ ;  $\text{R} = \text{Me}$ ,  $\text{R}' = \text{Ph}$ ;  $\text{R}, \text{R}' = -(\text{CH}_2)_4-$ ], 597-600

Solvent dependence of the stereochemistry of base-catalysed solvolysis of *trans*- $[\text{Co}(\text{NH}_3)_4(^{15}\text{NH}_3)\text{X}]^{3+/2+}$  ions in dipolar aprotic solvents, 659-62

Difluorophosphate complexes of chromium, manganese, iron, cobalt, and nickel, 707-10

Spectroscopic and magnetic properties of cobalt(II) and nickel(II) clusters obtained from 1-(hydroxymethyl)-3,5-dimethylpyrazole. *X*-Ray structure of tetrakis[chloro( $\mu_3$ -3,5-dimethyl-*N*-oxymethylpyrazolato-*N*<sup>2</sup>, $\mu_3$ -*O*)(ethanol)nickel(II)] 737-42

Optical resolution of DL-2,2'-bipiperidine through its cobalt(III) complex, 895-8

Electron-transfer reactions from *cis*-dialkylbis(2,2'-bipyridyl)cobalt(III) complexes to organic oxidants, 899-904

Reactions of cobalt(II) protoporphyrin IX dimethyl ester,  $[\text{Co}^{\text{II}}\text{P}]$ , and  $[\text{Co}^{\text{III}}\text{P}(\text{Cl})]$  in co-ordinating aliphatic alcohols, 1095-102

New carbide clusters in the cobalt sub-group. Part 14. Synthesis and structural characterization of the anion  $[\text{Co}_{13}\text{C}_2(\text{CO})_{24}]^{3-}$  as its benzyltrimethylammonium salt, 1137-40

Macrocyclic polyphosphane ligands. Cobalt(II) and nickel(II) complexes of 5*RS*,8*RS*,16*RS*,19*RS*-tetraphenyl-5,8,16,19-tetraphospha-1,12-dithiaacyclodocosane ( $\delta\text{-L}^1$ ) and the crystal structure of  $[\text{Co}(\delta\text{-L}^1)][\text{BF}_4]_2 \cdot 0.5\text{H}_2\text{O}$ , 1179-82

Crystal structures and interrelationships of the blue and green conformational isomers of tetrakis(trimethylarsine sulphide)cobalt(II) perchlorate, 1289-94

Chemistry of di- and tri-metal complexes with bridging carbene or

carbyne ligands. Part 33. Reactions of  $[\text{W}(\equiv\text{CMe})(\text{CO})_2(\eta\text{-C}_5\text{H}_5)]$  with the dimetal compounds  $[\text{MRh}(\mu\text{-CO})_2(\eta\text{-C}_5\text{Me}_5)_2]$  ( $\text{M} = \text{Co}$  or  $\text{Rh}$ ); *X*-ray crystal structure of  $[\text{Rh}_2\text{W}(\mu\text{-CO})(\mu_3\text{-CMe})(\text{CO})_2(\eta\text{-C}_5\text{H}_5)(\eta\text{-C}_5\text{Me}_5)_2]$ , 1315-22

Kinetic studies of oxidative dealkylation of alkylcobalamins by hexachloroplatinate(IV), 1375-80

Self-association of organocobalamins in aqueous solution, 1381-6

Macrocyclic polyphosphane ligands. Cobalt(II) and nickel(II) complexes of the  $\gamma$  and  $\epsilon$  diastereoisomers of 4,7,13,16-tetraphenyl-4,7,13,16-tetraphospha-1,10-dithiaacyclo-octadecane ( $\text{L}^1$ ) and the crystal structure of  $[\text{Co}(\epsilon\text{-L}^1)][\text{BPh}_4]_2 \cdot \text{EtOH}$ , 1425-30

Steric changes at labelled  $\text{NH}_2$  sites during the base-catalysed ammoniation of the *trans*-azido(dimethyl sulphoxide)bis(ethylenediamine)cobalt(III) ion, 1495-500

Dismutation of superoxide ion in an aprotic solvent by 5,10,15,20-tetra-*p*-tolylporphyrinatocobalt(II), 1513-6

Reactions of metal ions with triketones in solution. Part 1. Formation constants for the systems of heptane-2,4,6-trione, 1-phenylhexane-1,3,5-trione, 1,5-diphenylpentane-1,3,5-trione, and 2,2'-dihydroxybenzophenone with proton, nickel(II), and cobalt(II), 1543-6

Potentiometric study of the complex-formation equilibria of manganese(II), cobalt(II), nickel(II), copper(II), and zinc(II) with ethylenediamine-*N*-acetic acid, 1605-8

The chemistry of vitamin B<sub>12</sub>. Part 25. Mechanism of the  $\beta$ -elimination of olefins from alkylcorrinoids; evidence for an initial homolytic fission of the Co-C bond, 1613-8

The chemistry of vitamin B<sub>12</sub>. Part 26. Co-ordination of the malonitrile anion by Co<sup>III</sup> corrinoids: first experimental determination of equilibrium constants for the co-ordination of a tetrahedral carbanion by a transition-metal ion, 1619-22

Kinetics and mechanism of the reductions of tris(oxalato)cobaltate(III) ion by ruthenium(II) species in aqueous solution, 1665-8

Transition-metal co-ordination compounds of a novel aniline-based pyrazole derivative. *X*-Ray crystal structures of [*N,N*-bis(3,5-dimethylpyrazol-1-ylmethyl)aminobenzene]-dichlorocobalt(II) and -dibromocopper(II), 1699-706

Studies in the flexibility of macrocycle ligands. Calculation of macrocycle cavity size by force-field methods. Crystal and molecular structures of  $[\text{CoLCl}][\text{ClO}_4]_2$  and  $[\text{CuL}][\text{PF}_6]_2$  { $\text{L} = 2,13$ -dimethyl-3,6,9,12,18-penta-azabicyclo[12.3.1]octadeca-1(18),14,16-triene}, 1829-34

Synthesis, characterization and acid hydrolysis of [*N,N*-bis(2-aminoethyl)-1,2-ethanediamine]bis(solvent)cobalt(III) complexes, 1923-8

New photoreduction catalysis by  $[\text{Cu}(\text{N-N})(\text{PPh}_3)_2]^+$  ( $\text{N-N} = 2,9$ -dimethyl-1,10-phenanthroline or 4,4',6,6'-tetramethyl-2,2'-bipyridine) and its application to cobalt(III) complexes, 1959-62

Routes of formation and crystal structure of an alkylperoxycobaloxime: bis[*dimethylglyoximate*(1-)](4-ethoxy-carbonylbut-3-en-2-ylperoxy)(pyridine)cobalt(III), 1997-2000

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 36. Reactions of the dimetal compounds  $[\text{ReM}(\equiv\text{CC}_6\text{H}_4\text{Me-4})(\text{CO})_6]$  ( $\text{M} = \text{Cr}$ ,  $\text{Mo}$ , or  $\text{W}$ ) with octacarbonyldicobalt; crystal structures of  $[\text{Co}_2\text{WRe}(\mu_3\text{-CC}_6\text{H}_4\text{Me-4})(\text{CO})_{15}]$  and  $[\text{Co}_2\text{Re}(\mu_3\text{-CC}_6\text{H}_4\text{Me-4})(\text{CO})_{10}]$ , 2001-8

Steric changes at labelled  $\text{NH}_2$  sites during the base-catalysed ammoniation of the *trans*-azido(dimethyl sulphoxide)bis(ethylenediamine)cobalt(III) ion, 2223-4

Investigation into aroylhydrazones as chelating agents. Part 7. Synthesis and spectroscopic characterization of complexes of  $\text{Mn}^{\text{II}}$ ,  $\text{Co}^{\text{II}}$ ,  $\text{Ni}^{\text{II}}$ ,  $\text{Cu}^{\text{II}}$ , and  $\text{Zn}^{\text{II}}$  with 2,6-diacetylpyridine bis(2-aminobenzoylhydrazone) and *X*-ray structure of chloro[2,6-diacetylpyridine bis(2-aminobenzoylhydrazone)](methanol)manganese(II) chloride monohydrate, 2387-92

Crystal structures of the difluorophosphate complexes,  $\text{Co}(\text{O}_2\text{PF}_2)_2 \cdot 2\text{MeCN}$  and  $\text{Cu}(\text{O}_2\text{PF}_2)_2$ , 2433-6

Reactions of co-ordinated ligands. Part 35. Evidence for carbon-carbon double-bond cleavage of cyclopropenes in their reaction with dinuclear cobalt, rhodium, and iridium complexes; crystal structure and protolysis of  $[\text{Rh}_2(\mu\text{-CO})(\mu\text{-COCHCMe}_2\text{CH})(\mu\text{-C}_5\text{Me}_5)_2]$ , 2483-92

Reactions of metal ions with triketones. Part 2. Kinetics and mechanisms of the reactions of nickel(II) and cobalt(II) with heptane-2,4,6-trione in methanol-water (70:30 v/v), 2565-70

**CONDUCTIVITY**

*X*-Ray crystal structures and properties of tris(tetrathiafulvalenium) tetrachlorodimethylstannate(IV) and tetrathiafulvalenium trichlorodimethylstannate (IV), 465–70

Molecular structure and solid-state properties of the two-dimensional conducting mixed-valence complex  $[\text{NBu}_4]_{0.29}[\text{Ni}(\text{dmit})_2]$  and the neutral  $[\text{Ni}(\text{dmit})_2]$  ( $\text{H}_2\text{dmit} = 4,5\text{-dimercapto-1,3-dithiole-2-thione}$ ); members of an electron-transfer series, 783–94

Copper(II) salts of metal dithiolates, 1731–2

Electrical and magnetic properties of  $\text{K}_3\text{Cu}_8\text{S}_6$ , 2319–20

**CONFIGURATION**

Sila-pharmaca. Part 32. Crystal and molecular structures of the (*R*)-enantiomer and the racemate of the antimuscarinic agent (cyclohexyl)phenyl[2-(pyrrolidin-1-yl)ethyl]silanol (sila-procyclidine), 1743–6

**CONFORMATION**

Conformation analysis of compounds of the type  $[\text{Fe}(\eta^5\text{-C}_5\text{H}_5)(\text{CO})(\text{PPh}_3)(\text{CH}_2\text{R})]$  ( $\text{R} = \text{alkyl or aryl}$ ): a comment, 2691

Conformation analysis of compounds of the type  $[\text{Fe}(\eta^5\text{-C}_5\text{H}_5)(\text{CO})(\text{PPh}_3)(\text{CH}_2\text{R})]$  ( $\text{R} = \text{alkyl or aryl}$ ): a reply, 2691

**COPPER**

Enantioselectivity of nickel(II) and copper(II) complexes of Schiff bases derived from amino acids and (*S*)-*o*-[(*N*-benzylpropyl)amino]acetophenone or (*S*)-*o*-[(*N*-benzylpropyl)amino]acetaldehyde. Crystal and molecular structures of  $[\text{Ni}\{\text{(S)-bap-(S)-Val}\}]$  and  $[\text{Cu}\{\text{(S)-bap-(S)-Val}\}]$ , 17–26

Synthesis and characterization of copper(II) complexes with unsymmetrical quadridentate Schiff bases derived from  $\beta$ -diketone, diamine, and *o*-hydroxybenzaldehyde ligands, 101–6

Synthesis and characterization of a new family of binuclear copper(II) complexes with a flexible bridge and the  $\pi$ - $\pi$  type charge-transfer interaction with 1,3,5-trinitrobenzene, 107–10

Lewis-base adducts of Group 1B metal(I) compounds. Part 12.

Structural studies of some bis(methyl-substituted pyridine)-copper(I) and -silver(I) nitrates and perchlorates, 117–24

Lewis-base adducts of Group 1B metal(I) compounds. Part 13.

Crystal structure determinations of tetrakis(triphenyl-phosphine)-copper(I) and -silver(I) perchlorates, 117–24

Lewis-base adducts of Group 1B metal(I) compounds. Part 13.

Crystal structure determinations of tetrakis(triphenyl-phosphine)-copper(I) and -silver(I) perchlorates, bis(pyridine)bis(triphenylphosphine)copper(I) perchlorate, (2,2'-bipyridyl)bis(triphenylphosphine)copper(I) perchlorate, and tetrahydroboratobis(triphenylphosphine)copper(I)-pyridine (1/0.5), 125–34

The crystal structure and electronic properties of the complex acetatobis(1,10-phenanthroline)copper(II) perchlorate dihydrate, acetatobis(1,10-phenanthroline)copper(II) nitrate dihydrate, and acetatobis(1,10-phenanthroline)zinc(II) tetrafluoroborate dihydrate, 141–50

Sulphur ligand-metal complexes. Part 16. Copper complexes of thioethers and the single-crystal *X*-ray structure of the polymeric mixed-valence complex, penta- $\mu$ -chloro-tris- $\mu$ -tetrahydrothiophene-tetracopper(II), 151–8

Stabilisation of copper(I) by an azoimine ligand: redox properties and reactions of

bis(phenylazoacetaldoximate)bis(phenylacetaldoxime)dicopper(I), 159–62

Preparation of 11-(2'-dimethylaminoethyl)-1,4,7-trimethyl-1,4,7,11-tetra-azacyclotetradecane, and characterisation of its nickel(II), copper(II), and zinc(II) complexes, 219–22

Metal-phenoxymethanoic acid interactions. Part 13. Copper(II)-(2-chlorophenoxy)ethanoic acid complexes. Crystal and molecular structures of *catena*-tetra- $\mu$ -[(2-chlorophenoxy)ethanoato-*O,O'*]-dicopper(II), *catena*-(2-aminopyrimidine-*N,N'*)-tetra- $\mu$ -[(2-chlorophenoxy)ethanoato-*O,O'*]-dicopper(II), and 1,2,2,2-penta-aqua-tetra- $\mu$ -[(2-chlorophenoxy)ethanoato-*O,O'*]-copper(II)calcium(II), 243–52

Chlorine trioxide,  $\text{Cl}_2\text{O}_6$ , a most efficient perchlorating reagent in new syntheses of anhydrous metal perchlorates, chloryl and nitryl perchloratometalates of cobalt(II), nickel(II), and copper(II). Reactivity of chlorine trioxide with anhydrous or hydrated chlorides and nitrates, 297–306

Crystal and molecular structures and magnetic properties of tetrameric copper(II) complexes with 3-hydroxy-5-hydroxymethyl-4-(4'-hydroxy-4'-phenyl-2'-azabut-1'-en-1'-yl)-2-methylpyridine ( $\text{H}_2\text{L}^3$ ),  $[\text{Cu}_4\text{L}^3] \cdot 9\text{CH}_3\text{OH}$  and 3-hydroxy-5-hydroxymethyl-4-(4'-hydroxy-3'-methyl-4'-phenyl-2'-azabut-1'-en-1'-yl)-2-methylpyridine ( $\text{H}_2\text{L}^1$ ),  $[\text{Cu}_4\text{L}^1] \cdot 8\text{CH}_3\text{CH}_2\text{OH}$ : two complexes with ferromagnetic ground states, 315–20

Comparison between the bis(2-thiopyridine *N*-oxide) derivatives of  $\text{Cu}^{\text{II}}$  and  $\text{Ni}^{\text{II}}$ : an electron spin resonance study, 379–82

The L-proline residue as a 'break-point' in metal-peptide systems, 535–40

Synthesis and physico-chemical properties of cationic derivatives of phthalocyaninacopper(II), 651–8

Reaction of some aliphatic diamines with four-co-ordinated unsymmetrical ketoenamine copper(II) and nickel(II) complexes, 803–6

Lewis-base adducts of group 1B metal(I) compounds. Part 16.

Synthesis, structure, and solid-state phosphorus-31 nuclear magnetic resonance spectra of some novel  $[\text{Cu}_4\text{X}_4\text{L}_4]$  ( $\text{X} = \text{halogen}$ ,  $\text{L} = \text{N,P base}$ ) 'cubane' clusters, 831–8

Lewis-base adducts of group 1B metal(I) compounds. Part 17.

Synthesis and crystal structures of adducts of copper(I) cyanide with nitrogen bases, 839–44

Crystal and molecular structures and magnetic properties of bromo(3-dimethylaminopropan-1-olato)copper(II), chloro(3-dimethylaminopropan-1-olato)copper(II), and (3-diethylaminopropan-1-olato)isocyanatocopper(II), 913–20

Co-ordination chemistry of pyridyl and *N*-methylimidazolyl ketones. Synthetic and *X*-ray structural studies of copper(II), nickel(II), and dimethylgold(III) complexes, 981–6

Electrostatic solvent effect on the formation of the mixed-chelate complex (acetylacetonato)(diethyldithiocarbamato)-copper(II), 987–90

Solution chemistry of macrocycles. Part 4. Thermodynamics of protonation and complexation of several  $\text{N}_2\text{S}_2$  macrocycles, 1169–72

Specific binding of the tyrosine residue in copper(II) complexes of Tyr-Pro-Gly-Tyr and Tyr-Gly-Pro-Tyr, 1201–6

Crystal and molecular structures and magnetic properties of four new exchange-coupled copper(II) complexes derived from different 3-*N,N*-dialkylamino-1-propanols and pseudohalogens, 1243–8

Characterization of the adducts formed by  $\text{Cu}(\text{CN})$  and  $\text{Cu}(\text{NCS})$  with biquinoline. The crystal structure of the polymeric cyanocompound containing both linear and tetrahedrally co-ordinated copper(I),  $[\{\text{Cu}_3(\text{bq})_2(\text{CN})_3\}_n]$ , 1285–8

Compartmental ligands. Part 11. Copper(II) complexes of 'half-unit' Schiff bases: crystal and molecular structures of one monomeric and of one dimeric complex, 1471–8

Potentiometric study of the complex-formation equilibria of manganese(II), cobalt(II), nickel(II), copper(II), and zinc(II) with ethylenediamine-*N*-acetic acid, 1605–8

The concentration and selective extraction of copper(II), rhodium(III), and iridium(III) using a copolymer functionalised with dithiocarbamate groups. Spectroscopic evidence for the nature of the binding sites, 1655–60

Transition-metal co-ordination compounds of a novel aniline-based pyrazole derivative. *X*-Ray crystal structures of  $[\text{NV-bis}(3,5\text{-dimethylpyrazol-1-ylmethyl)aminobenzene}]\text{-dichlorocobalt(II)}$  and -dibromocopper(II), 1699–706

Electron spin resonance parameters for some copper(II)-bis(amino acid) complexes, 1717–8

Iodine-127 Mössbauer spectroscopy of copper(I) iodide-phosphine adducts, 1727–30

Copper(II) salts of metal dithiolates, 1731–2

The structure of a dinuclear copper(I) complex of a Schiff-base ligand containing a copper-copper bond, 1771–4

Studies in the flexibility of macrocycle ligands. Calculation of macrocycle cavity size by force-field methods. Crystal and molecular structures of  $[\text{Co}(\text{LCl})][\text{ClO}_4]_2$  and  $[\text{Cu}(\text{L})][\text{PF}_6]_2$  ( $\text{L} = 2,13\text{-dimethyl-3,6,9,12,18-penta-azabicyclo}[12.3.1]\text{octadecan-1}(18),14,16\text{-triene}$ ), 1829–34

Equilibria between mono- and bi-nuclear complexes in  $\text{Cu}(\text{O}_2\text{CMe})_2$ -pyridine derivative-diluent systems. The influence of the amine ligand basicity, 1849–52

Bis(triphenylphosphine)copper(I) derivatives of substituted *arachno* nine-vertex borane anions,  $\text{Cu}(\text{PPh}_3)_2(\text{B}_9\text{H}_3\text{X})$  ( $\text{X} = \text{H, NCS, NCS}_2, \text{NCBPh}_3, \text{NCBH}_3, \text{or NCBH}_2\text{NCBH}_3$ ), 1903–8

Magnetic behaviour of tetrakis[(2-diethylaminoethanolato)isocyanatocopper(II)], a complex with an antiferromagnetic ground state; the crystal and molecular structure of the triclinic modification, 1909–14

Crystal structures and magnetic properties of binuclear five-co-ordinate copper(II) complexes with a phenolate bridge and their catalytic functions in multielectron redox reactions, 1945–52

New photoreduction catalysis by  $[\text{Cu}(\text{N-N})(\text{PPh}_3)_2]^+$  ( $\text{N-N} = 2,9$ -

**COPPER** (contd)

- dimethyl-1,10-phenanthroline or 4,4',6,6'-tetramethyl-2,2'-bipyridine) and its application to cobalt(III) complexes, 1959-62
- Metal complexes of vitamin B<sub>6</sub> related compounds. Crystal and molecular structures of aqua(5'-phosphopyridoxylidene)glycinato)copper(II) trihydrate and bis(pyridoxylidene)glycinato)nickel(II) hexahydrate, 2051-8
- X-Ray crystal structures and magnetic properties of azide-bridged binuclear copper(II) complexes containing the Schiff-base ligand derived from 2-pyridinecarbaldehyde and histamine. Structure-magnetism relationship, 2095-100
- Unidentate *versus* symmetrically and unsymmetrically bidentate nitrate co-ordination in pyrazole-containing chelates. The crystal and molecular structures of (nitrate-*O*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]copper(II) nitrate, (nitrate-*O,O'*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]nickel(II) nitrate, and (nitrate-*O*)(nitrate-*O,O'*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]cadmium(II), 2177-84
- Copper(II) complexes of *N,N'*-bis(2-carbamoyl)ethylenediamine in methanol-water, 2217-20
- Influence of decreasing solvent polarity (dioxane-water mixtures) on the stability and structure of binary and ternary complexes of adenosine 5'-triphosphate and uridine 5'-triphosphate, 2291-304
- Synthesis and cryptate complexes of azathia macropolycyclic ligands based on 12-membered N<sub>2</sub>S<sub>2</sub> and 15-membered N<sub>2</sub>S<sub>3</sub> macrocyclic subunits, 2311-8
- Electrical and magnetic properties of K<sub>3</sub>Cu<sub>8</sub>S<sub>6</sub>, 2319-20
- Copper complexes with quadridentate bis(pyrazolyl)thioether amine and tris(pyrazolyl)amine ligands. Structural characterization of the complexes [Cu(NCS)(tpea)][Cu(NCS)<sub>2</sub>] and [CuCl(bdma)]Cl·2H<sub>2</sub>O, 2327-32
- The effect of a dansyl group on the co-ordinative ability of *N*-protected amino acids. Part 1. Behaviour of the copper(II) ion-*N*-dansylglycinate system in aqueous and methanolic solution, 2363-8
- Investigation into aroylhydrazones as chelating agents. Part 7. Synthesis and spectroscopic characterization of complexes of Mn<sup>II</sup>, Co<sup>II</sup>, Ni<sup>II</sup>, Cu<sup>II</sup>, and Zn<sup>II</sup> with 2,6-diacetylpyridine bis(2-aminobenzoylhydrazone) and X-ray structure of chloro[2,6-diacetylpyridine bis(2-aminobenzoylhydrazone)](methanol)manganese(II) chloride monohydrate, 2387-92
- Crystal structures of the difluorophosphate complexes, Co(O<sub>2</sub>PF<sub>2</sub>)<sub>2</sub>·2MeCN and Cu(O<sub>2</sub>PF<sub>2</sub>)<sub>2</sub>, 2433-6
- The [Fe<sub>3</sub>(μ<sub>3</sub>-CR)(CO)<sub>10</sub>]<sup>-</sup> cluster anions as building blocks for the synthesis of mixed-metal clusters. Part 1. Synthesis of mixed clusters [MFe<sub>3</sub>(μ<sub>3</sub>-CMe)(CO)<sub>10</sub>(PPh<sub>3</sub>)<sub>3</sub>] (M = Cu or Au) and crystal structure of [CuFe<sub>3</sub>(μ<sub>3</sub>-CMe)(CO)<sub>10</sub>(PPh<sub>3</sub>)<sub>3</sub>], 2521-4
- Lewis-base adducts of Group 1B metal(I) compounds. Part 18. Stereochemistries and structures of the 1:1 neutral complexes of Cu<sup>I</sup>X with 1,10-phenanthroline (X = I) or 2,9-dimethyl-1,10-phenanthroline (X = I, Br, or Cl), 2531-40
- Lewis-base adducts of Group 1B metal(I) compounds. Part 19. Crystal structures of bis(1,10-phenanthroline)copper(I) perchlorate and dibromocuprate(I), 2541-6
- Molecular structure of gaseous copper(I) acetate as determined by electron diffraction, 2555-60
- Crystal and molecular structure and magnetic properties of linear trimeric copper(II) complexes with predominant ferromagnetic exchange interaction, 2609-14

**CORRINOID**

- The chemistry of vitamin B<sub>12</sub>. Part 26. Co-ordination of the malonitrile anion by Co<sup>III</sup> corrinoids: first experimental determination of equilibrium constants for the co-ordination of a tetrahedral carbanion by a transition-metal ion, 1619-22

**CORROSION**

- Electrochemical studies in HNO<sub>3</sub>-N<sub>2</sub>O<sub>4</sub> mixtures: corrosion of stainless steel in HNO<sub>3</sub>-N<sub>2</sub>O<sub>4</sub> mixtures and the effect of inhibitors, 2551-4

**CROWN ETHER**

- Complexes of lanthanoid salts with macrocyclic ligands. Part 17. Synthesis and crystal and molecular structure of a hydroxide-bridged praseodymium trifluoroacetate complex with 15-crown-5-ether, [Pr<sub>2</sub>(CF<sub>3</sub>CO<sub>2</sub>)<sub>3</sub>(OH)(C<sub>10</sub>H<sub>20</sub>O<sub>5</sub>)<sub>2</sub>]-[Pr<sub>2</sub>(CF<sub>3</sub>CO<sub>2</sub>)<sub>8</sub>], 885-90

**CRYPTATE**

- Synthesis and cryptate complexes of azathia macropolycyclic ligands based on 12-membered N<sub>2</sub>S<sub>2</sub> and 15-membered N<sub>2</sub>S<sub>3</sub> macrocyclic subunits, 2311-8

**CRYSTAL STRUCTURE**

- Co-ordinative interactions in chelated complexes of silicon. Part 5. Chirality of five-co-ordinate silicon compounds: crystal and molecular structures of 1-(chlorodimethylsilyl)- and 1-(dichloromethylsilyl)-1,2,3,4-tetrahydro-1,10-phenanthroline, 1-4
- Preparation and characterisation of adducts of bismuth pentafluoride and antimony pentafluoride by vibrational spectroscopy, X-ray powder diffraction, and single-crystal X-ray crystallography, 9-16
- Enantioselectivity of nickel(II) and copper(II) complexes of Schiff bases derived from amino acids and (*S*)-*o*-[(*N*-benzylpropyl)amino]acetophenone or (*S*)-*o*-[(*N*-benzylpropyl)amino]benzaldehyde. Crystal and molecular structures of [Ni{(S)-bap-(S)-Val}] and [Cu{(S)-bap-(S)-Val}], 17-26
- New carbide clusters in the cobalt subgroup. Part 13. Synthesis and chemical characterization of the anions [Co<sub>6</sub>C(CO)<sub>14</sub>]<sup>-</sup>, [Co<sub>6</sub>C(CO)<sub>15</sub>]<sup>2-</sup>, and [Co<sub>8</sub>C(CO)<sub>18</sub>]<sup>2-</sup>, and crystal structure of μ<sub>6</sub>-carbido-ennea-μ-carbonyl-hexacarbonyl-polyhedro-hexacobaltate(2-) as its benzyltrimethylammonium salt; a comparison with isostructural species, 35-42
- Toluene-3,4-dithiol (H<sub>2</sub>tdt) complexes of Group 5B halides. Observations of lone-pair stereochemical activity and redox behaviour. Crystal and molecular structures of [AsCl(tdt)] and [PPh<sub>4</sub>][Sb(tdt)<sub>2</sub>], 69-74
- Metallation of 2-ethenylpyridine at trisium clusters: X-ray crystal structures of the open trinuclear clusters [Os<sub>3</sub>H(CO)<sub>9</sub>L(NC<sub>2</sub>H<sub>4</sub>CH=CH)] (L = CO or PMe<sub>2</sub>Ph), 85-90
- Synthesis and characterization of copper(II) complexes with unsymmetrical quadridentate Schiff bases derived from β-diketone, diamine, and *o*-hydroxybenzaldehyde ligands, 101-6
- Lewis-base adducts of Group 1B metal(I) compounds. Part 11. Synthesis and crystal structure of adducts of silver(I) bromide with monomethyl-substituted pyridine bases, 111-6
- Lewis-base adducts of Group 1B metal(I) compounds. Part 12. Structural studies of some bis(methyl-substituted pyridine)-copper(I) and -silver(I) nitrates and perchlorates, 117-24
- Lewis-base adducts of Group 1B metal(I) compounds. Part 13. Crystal structure determinations of tetrakis(triphenyl-phosphine)-copper(I) and -silver(I) perchlorates, bis(pyridine)bis(triphenylphosphine)copper(I) perchlorate, (2,2'-bipyridyl)bis(triphenylphosphine)copper(I) perchlorate, and tetrahydroboratobis(triphenylphosphine)copper(I)-pyridine (1/0.5), 125-34
- The crystal structure and electronic properties of the complex acetatobis(1,10-phenanthroline)copper(II) perchlorate dihydrate, acetatobis(1,10-phenanthroline)copper(II) nitrate dihydrate, and acetatobis(1,10-phenanthroline)zinc(II) tetrafluoroborate dihydrate, 141-50
- Sulphur ligand-metal complexes. Part 16. Copper complexes of thioethers and the single-crystal X-ray structure of the polymeric mixed-valence complex, penta-μ-chloro-tris-μ-tetrahydrothiophene-tetracopper(II), 151-8
- Chemistry of the unsaturated cluster compound [Os<sub>3</sub>Pt(μ-H)<sub>2</sub>(CO)<sub>10</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}<sub>3</sub>]; X-ray crystal structures of [Os<sub>3</sub>Pt(μ-H)<sub>2</sub>(CO)<sub>11</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}<sub>3</sub>], [Os<sub>3</sub>Pt(μ-H)<sub>4</sub>(CO)<sub>10</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}<sub>3</sub>], and [Os<sub>3</sub>Pt(μ-H)<sub>2</sub>(μ-CH<sub>2</sub>)(CO)<sub>10</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}<sub>3</sub>] (two isomers), 177-90
- Co-ordination chemistry of higher oxidation states. Part 13. Synthesis and properties of alkali-metal hydroxo-oxo-osmate(VIII) compounds and the molecular structure of Cs[O<sub>4</sub>Os(μ-OH)OsO<sub>4</sub>], 199-204
- The template synthesis and crystal and molecular structure of a seven-co-ordinate manganese(II) complex with 2,6-diacetylpyridine mono(2-aminobenzoylhydrazone), 215-8
- Crystal structures and rotameric forms of some diarylsulphonyl-mono-, -di-, and -tri-selanes and their sulphur analogues, 231-8
- Metal-phenoxycarboxylic acid interactions. Part 13. Copper(II)-(2-chlorophenoxy)ethanoic acid complexes. Crystal and molecular structures of *catena*-tetra-μ-[(2-chlorophenoxy)ethanoato-*O,O'*]-dicopper(II), *catena*-(2-aminopyrimidine-*N,N'*)-tetra-μ-[(2-chlorophenoxy)ethanoato-*O,O'*]-dicopper(II), and 1,2,2,2,2-penta-aqua-tetra-μ-[(2-chlorophenoxy)ethanoato-*O,O'*]-copper(II)calcium(II), 243-52
- Chemistry of metallacyclobutanones. Part 2. Synthesis and ring inversion of some highly puckered metallacyclobutan-3-one (slipped oxodimethylenemethane) complexes of palladium; crystal structures of 2,4-bis(methoxycarbonyl)-1,1-bis(triphenylphosphine)palladacyclobutan-3-one, 2,4-

## CRYSTAL STRUCTURE (contd)

bis(methoxycarbonyl)-1,1-bis(triphenylarsine)palladacyclobutan-3-one, and 1,1-(2',2''-bipyridyl)-2,4-bis(methoxycarbonyl)palladacyclobutan-3-one, 259-68

Phosphorus-phosphorus bond cleavage in the cage molecule  $P_4S_3$ : synthesis and crystal structure of the trinuclear platinum complex  $[Pt(\mu-P_4S_3)(PPh_3)_3] \cdot C_6H_6$ , 291-6

Crystal and molecular structures and magnetic properties of tetrameric copper(II) complexes with 3-hydroxy-5-hydroxymethyl-4-(4'-hydroxy-4'-phenyl-2'-azabut-1'-en-1'-yl)-2-methylpyridine ( $H_2L^3$ ),  $[Cu_4L^3_4] \cdot 9CH_3OH$  and 3-hydroxy-5-hydroxymethyl-4-(4'-hydroxy-3'-methyl-4'-phenyl-2'-azabut-1'-en-1'-yl)-2-methylpyridine ( $H_2L^1$ ),  $[Cu_4L^1_4] \cdot 8CH_3CH_2OH$ : two complexes with ferromagnetic ground states, 315-20

Chemical and structural aspects of silver-triphenylarsine complexes and silver-tin complex salts, 321-32

The preparation and co-ordination chemistry of 2,2':6,2''-terpyridine macrocycles. Part 4. Structural characterisation of an intermediate in a transient template reaction, 333-6

Synthesis of  $\alpha$ -lithioarylmethanes of *m*-xylene and its  $\alpha$ -trimethylsilyl derivatives; crystal structure of  $[Li(Me_2NCH_2CH_2NMe_2)_2\{C_6H_4(CHSiMe_3)_2-m\}]$ , 337-44

Static and dynamic nuclear magnetic resonance studies of complexes of trimethylplatinum(IV) halides with olefinic thio- and seleno-ethers. X-Ray crystal structures of  $[PtXMe_3(MeSeCH=CHSeMe)]$  ( $X = Cl$  or  $I$ ), 345-54

Purification and X-ray crystal structure of bis[tris(trimethylsilyl)methyl]diarsene, 383-6

The preparation and hydride reduction of dicationic dicarbonyl complexes of osmium(II); the crystal and molecular structure of *trans*-bis[1,2-bis(diphenylphosphino)ethane-*PP*]carbonylformylmolybdenum(II) hexafluoroantimonate-dichloromethane (1/1), 387-94

Niobium(IV) sulphido-halides: preparation of  $Nb_2X_4S_3$  and  $Nb_2X_4S \cdot nL$  ( $X = Br$  or  $Cl$ ;  $n = 4$ ,  $L = NCMe$ ,  $SMe_2$ , or tetrahydrothiophene (tht);  $n = 2$ ,  $L = PhSCH_2CH_2SPh$ ). Crystal and molecular structure of  $Nb_2Cl_4S_2 \cdot 4tht$ , 417-22

Hexakis(trimethylphosphine)molybdenum chemistry: dinitrogen, ethylene, butadiene,  $\eta$ -cyclopentadienyl, and related derivatives, 423-34

Reactions of co-ordinated ligands. Part 33. Mononuclear  $\eta^2$ -vinyl complexes: synthesis, structure, and reactivity, 435-50

The synthesis of  $NR_4[(Ta_6Cl_{12}(H_2O)_6)X_4]$  ( $R = Me$  or  $Et$ ,  $X = Cl$  or  $Br$ ) by the spontaneous reduction of  $[Ta_6Cl_{12}]^{4+}$  to  $[Ta_6Cl_{12}]^{3+}$  in acidic media: X-ray structure analysis of  $NMe_4[(Ta_6Cl_{12})(H_2O)_6]Br_4$ , 455-8

Co-ordination of alkali metals by open-chain polyethers in transition metal complexes. Part 4. Variation in alkali-metal ion selectivity in cobalt and zinc complexes of 1-(*o*-carboxymethoxyphenoxy)-2-(*o*-hydroxyphenoxy)ethane (HL) and the X-ray and molecular structure of  $[Zn(NH_4L_2)_2]$ , 459-64

X-Ray crystal structures and properties of tris(tetrahydrofulvalenium) tetrachlorodimethylstannate(IV) and tetrathiafulvalenium trichlorodimethylstannate (IV), 465-70

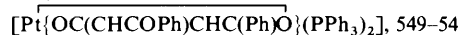
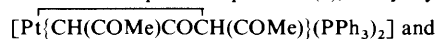
The structure of pentachlorocyclopentadienylphenylmercury(II) in the solid state and in solution; the effect of X-ray absorption and crystal decay on molecular geometry parameters, 471-4

Macrocyclic polyphosphane ligands. Iron(II), cobalt(II), and nickel(II) complexes of (4*RS*,7*RS*,13*SR*,16*SR*)-tetraphenyl-1,10-dipropyl-1,10-diaza-4,7,13,16-tetraphosphacyclo-octadecane: crystal structures of their tetraphenylborate derivatives, 479-86

Investigation into diphosphine oxides as ligands in diorganotin(IV) adducts. Part 3. Synthesis and crystal structure of two adducts of dinitratodiphenyltin(IV) with *cis*- and *trans*-1,2-bis(diphenylphosphoryl)ethylene, 487-92

Glycine complexation with uranyl ion: absorptiometric, luminescence, and X-ray structural studies of tetrakis(glycine)dioxouranium(VI) nitrate, 517-22

Chemistry of metallacyclobutanones. Part 3. Reactions of heptane-2,4,6-trione and 1,5-diphenylpentane-1,3,5-trione with some carbonate complexes of platinum(II); X-ray crystal structures of



Systematic synthesis of tetranuclear osmium clusters by the reaction of trinuclear clusters with  $[OsH_2(CO)_4]$ ; crystal structure of  $[Os_4H_3Br(CO)_3]$ , 555-64

Structural and nuclear magnetic resonance studies of short selenium-nitrogen bonds, 565-72

Synthesis, characterization, and structure of the complex  $[FeH(H_2BH_2)\{CH_3C(CH_2PPh_3)_3\}]$ , 605-10

Complexes of the platinum metals. Part 23. Synthesis of the nitrosyl carboxylate complexes  $[M(O_2CR)_2(NO)(PPh_3)_2]$  ( $M = Rh$  or  $Ir$ ;  $R = CF_3$ ,  $C_2F_5$ , or  $C_6F_5$ ): crystal and molecular structures of the trifluoroacetate derivatives  $[M(O_2CCF_3)_2(NO)(PPh_3)_2]$ , 611-6

Complexes of the platinum metals. Part 25. Reactions of ruthenium and osmium nitrosyls  $[MH(NO)(PPh_3)_3]$  and  $[M(NO)_2(PPh_3)_2]$  with perfluorocarboxylic acids: X-ray crystal structure determination of nitrosyl(trifluoroacetato)-(trifluoroacetohydroximato-*OO'*)bis(triphenylphosphine)osmium(II)-dichloromethane (1/1), 621-8

Synthesis and X-ray structural studies on the cluster compounds  $[RuRh_3(\mu_3-CO)_2(CO)_3(\eta-C_5Me_5)_3]$  and  $[RuRh_2(\mu-CO)(\mu_3-CO)(\eta^4-C_8H_{10})(\eta-C_5Me_5)_2]$ , 645-50

Mono- $\eta$ -cycloheptatrienyltitanium chemistry: synthesis, molecular and electronic structures, and reactivity of the complexes  $[Ti(\eta-C_7H_7)L_2X]$  ( $L =$  tertiary phosphine, O- or N-donor ligand;  $X = Cl$  or alkyl), 669-84

Synthesis and characterisation of 1,2-bis(dimethylphosphino)ethane (dmpe) complexes of chromium(0) and -(IV): X-ray crystal structures of *trans*- $Cr(N_2)_2(dmpe)_2$ , *cis*- $Cr(CO)_2(dmpe)_2$ ,  $Cr(C_2Ph_2)_2(dmpe)$ , and  $CrH_4(dmpe)_2$ , 685-92

Reduction-oxidation properties of organotransition-metal complexes. Part 20. Oxidative and thermolytic cyclopropane ring-opening reactions; X-ray crystal structure of  $[Fe_2(CO)_6(\eta^4-C_16H_{18})]$ , 699-706

Spectroscopic and magnetic properties of cobalt(II) and nickel(II) clusters obtained from 1-(hydroxymethyl)-3,5-dimethylpyrazole. X-Ray structure of tetrakis[chloro( $\mu_3$ -3,5-dimethyl-*N*-oxymethylpyrazolato-*N*<sup>2</sup>, $\mu_3$ -*O*)(ethanol)nickel(II)] 737-42

Short hydrogen bonds: diadducts of substituted pyridine *N*-oxides: synthesis, spectroscopic studies, and X-ray structure, 749-54

Carborane derivatives of the late- and post-transition elements.

Part 3. Structural consequences of ligand substitution in palladadecaboranes 3- $L_2$ -3,1,2-PdC<sub>2</sub>B<sub>9</sub>H<sub>11</sub>. The crystal and molecular structures of 3- $[Me_2N(CH_2)_2NMe_2]$ -3,1,2-PdC<sub>2</sub>B<sub>9</sub>H<sub>11</sub> and 3-(PMe<sub>3</sub>)<sub>2</sub>-3,1,2-PdC<sub>2</sub>B<sub>9</sub>H<sub>11</sub>, 761-70

Solvent extraction of gold and platinum-group metals using 2-nonylpyridine 1-oxide, and the crystal and molecular structure of bis(2-nonylpyridine 1-oxide)hydrogen(1+) tetrachloroaurate(III), 771-6

Annulation of ring-opened arylcyclopropenium ions to co-ordinated cyclo-octatetraene, and the X-ray crystal structure of  $[Fe(CO)_3(\sigma-\eta^3-C_{11}H_9Ph_3)]$ , 777-82

Molecular structure and solid-state properties of the two-dimensional conducting mixed-valence complex

$[NBu_4]_0.29[Ni(dmit)_2]$  and the neutral  $[Ni(dmit)_2]$  ( $H_2dmit = 4,5$ -dimercapto-1,3-dithiole-2-thione); members of an electron-transfer series, 783-94

Platinum(II) complexes of nitroimidazoles: synthesis, characterisation, and X-ray crystal structures of *cis*-dichlorobis[1-(2'-hydroxyethyl)-2-hydroxymethyl-5-nitroimidazole]platinum(II) and *trans*-dichlorobis[1-(2'-hydroxy-3'-methoxypropyl)-2-nitroimidazole]platinum(II), 795-802

Palladium(II,IV) mixed-valence complexes of 1,2-diaminoethane, 1,3-diaminopropane, and diethylenetriamine: syntheses, electronic, infrared, Raman, and resonance Raman spectra and X-ray studies, 815-20

Lewis-base adducts of group 1B metal(I) compounds. Part 16.

Synthesis, structure, and solid-state phosphorus-31 nuclear magnetic resonance spectra of some novel  $[Cu_4X_4L_4]$  ( $X =$  halogen,  $L = N, P$  base) 'cubane' clusters, 831-8

Lewis-base adducts of group 1B metal(I) compounds. Part 17. Synthesis and crystal structures of adducts of copper(I) cyanide with nitrogen bases, 839-44

Interconversion of 42- and 44-electron platinum *triangulo*-clusters using chelating tertiary phosphine ligands and the structural characterisation of [1,3-bis(diphenylphosphino)propane]-tris( $\mu$ -sulphur dioxide)bis(tricyclohexylphosphine)triplatinum-benzene (1/2),  $[Pt_3(\mu-SO_2)_3\{P(C_6H_{11})_3\}_2(dppp)] \cdot 2C_6H_6$ , 845-50

Chemistry of platinum sulphido-complexes. Part 5. Synthesis and crystal and molecular structure of 3-( $\eta$ -cyclo-octa-1,5-diene)bis( $\mu_3$ -sulphido)-1,1,2,2-tetrakis(triphenylphosphine)diplatinum(II)rhodium(II) hexafluorophosphate-dichloromethane (1/1),  $[Pt_2Rh(\mu_3-S)_2(PPh_3)_4(\eta-C_8H_{12})]PF_6 \cdot CH_2Cl_2$ , 851-6

## CRYSTAL STRUCTURE (contd)

- Correlation between structure and circular dichroism. Structure and absolute configuration of the (–) isomer of lithium (ethylenediamine-*N,N'*-diacetato-*N,N'*-di-3-propionato)rhodate(III) pentahydrate, 861–4
- Complexes of lanthanoid salts with macrocyclic ligands. Part 17. Synthesis and crystal and molecular structure of a hydroxide-bridged praseodymium trifluoroacetate complex with 15-crown-5-ether,  $[\text{Pr}_2(\text{CF}_3\text{CO}_2)_3(\text{OH})(\text{C}_{10}\text{H}_{20}\text{O}_5)_2]\cdot[\text{Pr}_2(\text{CF}_3\text{CO}_2)_8]$ , 885–90
- Formation of substituted cyclopentadienyl ligands on tungsten *via* reactions between the alkyne complexes  $[\text{W}(\text{CO})(\text{R}^1\text{C}_2\text{R}^2)_3]$  ( $\text{R}^1 = \text{R}^2 = \text{Ph}$  or Et;  $\text{R}^1 = \text{Me}$ ,  $\text{R}^2 = \text{Ph}$ ) and the alkylidyne compounds  $[\text{W}(\equiv\text{CR})(\text{CO})_2(\eta\text{-C}_5\text{H}_5)]$  ( $\text{R} = \text{C}_6\text{H}_4\text{Me-4}$  or Me); X-ray crystal structures of  $[\text{W}_2(\mu\text{-CO})_2(\text{CO})(\eta\text{-PhC}_2\text{Ph})(\eta\text{-C}_5\text{Ph}_4\text{R})(\eta\text{-C}_5\text{H}_5)]$  and  $[\text{W}_2(\mu\text{-EtC}_2\text{Et})(\text{CO})_4(\eta\text{-C}_5\text{Et}_4\text{R})(\eta\text{-C}_5\text{H}_5)]$  ( $\text{R} = \text{C}_6\text{H}_4\text{Me-4}$ ), 905–12
- Crystal and molecular structures and magnetic properties of bromo(3-dimethylaminopropan-1-olato)copper(II), chloro(3-dimethylaminopropan-1-olato)copper(II), and (3-diethylaminopropan-1-olato)isocyanatocopper(II), 913–20
- Alkyl, hydrido, and tetrahydroaluminato complexes of manganese with 1,2-bis(dimethylphosphino)ethane (dmpe). X-Ray crystal structures of  $\text{Mn}_2(\mu\text{-C}_6\text{H}_{11})_2(\text{C}_6\text{H}_{11})_2(\mu\text{-dmpe})$ ,  $(\text{dmpe})_2\text{Mn}(\mu\text{-H})_2\text{AlH}(\mu\text{-H})_2\text{AlH}(\mu\text{-H})_2\text{Mn}(\text{dmpe})_2$ , and  $\text{Li}_4\{\text{MnH}(\text{C}_2\text{H}_4)(\text{CH}_2)_2\text{PCH}_2\text{CH}_2\text{PMe}_2\}_2\cdot 2\text{Et}_2\text{O}$ , 921–30
- Reaction of transition-metal carbonylate anions and 1,1,1-tris(halogenomethyl)ethane. X-Ray crystal structures of tricarbonyl( $\eta^3$ -cyclopentadienyl)(1-methylcyclopropylmethyl)tungsten(II), and tetraethylammonium enneacarbonyliodirhenate(O), 931–40
- Reactions of 6,6'-bis(*nido*-decarbonyl) oxide and 6-hydroxy-*nido*-decarbonyl with dihalogenobis(phosphine) complexes of nickel, palladium, and platinum, and some related chemistry; nuclear magnetic resonance investigations and the crystal and molecular structures of bis(dimethylphosphine)-di- $\mu$ -(2,3,4- $\eta^3$ -*nido*-hexaboranyl)-diplatinum(*Pt-Pt*),  $[\text{Pt}_2(\mu\text{-}\eta^3\text{-B}_6\text{H}_5)_2(\text{PMe}_2\text{Ph})_2]$ , and of 2,4-dichloro-1,1-bis(dimethylphenylphosphine)-*cis*-1-nickeladecaborane,  $[(\text{PhMe}_2\text{P})_2\text{NiB}_{10}\text{H}_7\text{Cl}_2]$ , 953–72
- Pyrazolate A-frame rhodium complexes. Crystal structures of  $[\text{Rh}_2(\mu\text{-dmpz})(\text{CO})_2(\mu\text{-dppm})_2][\text{ClO}_4]$  and  $[\text{Rh}_2(\mu\text{-dmpz})\text{I}_2(\text{CO})_2(\mu\text{-dppm})_2][\text{ClO}_4]$ , 973–80
- Co-ordination chemistry of pyridyl and *N*-methylimidazolyl ketones. Synthetic and X-ray structural studies of copper(II), nickel(II), and dimethylgold(III) complexes, 981–6
- Actinide structural studies. Part 7. The crystal and molecular structures of (2,2'-bipyridyl)dinitratodioxo-uranium(VI) and -neptunium(VI), and diacetato(2,2'-bipyridyl)dioxo-uranium(VI) and -neptunium(VI), 1001–8
- Reduction-oxidation properties of organotransition-metal complexes. Part 21. Synthesis and X-ray structural characterisation of the redox-related pair of cyclohexadienyl complexes  $[\text{Mn}(\text{CO})(\text{dppe})(\eta^5\text{-C}_6\text{H}_6\text{Ph})]$  and  $[\text{Mn}(\text{CO})(\text{dppe})(\eta^5\text{-C}_6\text{H}_6\text{Ph})][\text{PF}_6]_2\cdot 0.5\text{CH}_2\text{Cl}_2$ , 1019–26
- Reduction-oxidation properties of organotransition-metal complexes. Part 22. Stereospecific oxidative cyclopropane ring opening and reductive cyclobutane ring formation in polycyclic hydrocarbon complexes of iron; X-ray crystal structures of  $[\text{Fe}_2(\text{CO})_6(\eta^5\text{-}\eta^5\text{-C}_{16}\text{H}_{16})][\text{PF}_6]_2\cdot \text{CH}_3\text{NO}_2$  and  $[\text{Fe}_2(\text{CO})_6(\eta^5\text{-}\eta^5\text{-C}_{16}\text{H}_{16})]$ , 1027–36
- Reaction of trithiazyl trichloride, (NSCl)<sub>3</sub>, with triphenylphosphine or triphenylphosphine metal complexes. X-Ray crystal structure of aminotriphenylphosphonium chloride-dichloromethane (1/1),  $[\text{Ph}_3\text{PNH}_2]\text{Cl}\cdot\text{CH}_2\text{Cl}_2$ , 1043–8
- Platinum(II) complexes containing a cationic amine ligand: crystal structure of [(2-aminoethyl)ammonium]trichloroplatinum(II), 1057–60
- Preparation and crystal structure of  $\text{Na}_4[\text{Hg}_4(\mu\text{-Cl})_4\{\text{P}(\text{O})(\text{OEt})_2\}_8]\cdot 6\text{H}_2\text{O}$ , 1061–4
- Tetrachlorobis(tetrahydrofuran)molybdate(III), a new intermediate for the synthesis of molybdenum(III) complexes: preparation and crystal structure, 1069–72
- N,N'*-Disubstituted dithiomalonamide complexes of antimony(III). Crystal and molecular structure of  $[\text{SbCl}_3\{\text{C}_2\text{H}_5\text{NHC}(\text{S})\text{CH}_2\text{C}(\text{S})\text{NHC}_2\text{H}_5\}]$  with lone-pair occupation of an antimony co-ordination site, 1073–6
- Carbon-carbon formation at di-iron centres. Part 2. Reactivity of  $[\text{Fe}_2(\text{CO})_6(\mu\text{-COEt})\{\mu\text{-C}(\text{R})(\text{R}'\text{H})\}]$  complexes toward  $\text{MeOC}(\text{O})\text{C}\equiv\text{CC}(\text{O})\text{OMe}$  ( $\text{R} = \text{Ph}$ ) and  $\text{CF}_3\text{C}\equiv\text{CCF}_3$  ( $\text{R} = \text{Ph}$  or H); X-ray crystal structures of  $[\text{Fe}_2(\text{CO})_5\{\mu\text{-C}(\text{OEt})\text{C}(\text{C}(\text{O})\text{OMe})\text{C}(\text{C}(\text{O})\text{OMe})\}\{\mu\text{-C}(\text{Ph})(\text{Ph})\text{H}\}]\cdot\text{H}_2\text{O}$  and  $[\text{Fe}_2(\text{CO})_6\{\mu\text{-C}(\text{CF}_3)\text{C}(\text{CF}_3)\text{CHCH}(\text{OMe})\}]$ , 1087–94
- Polyhedral rhenaborane chemistry: crystal and molecular structures of the *nido*-6-rhenadecaborane cluster compounds [6.6.6.6-(PMe<sub>2</sub>Ph)<sub>3</sub>H-*nido*-6-ReB<sub>9</sub>H<sub>13</sub>] and [2-(PMe<sub>2</sub>Ph)-6.6.6.6-(PMe<sub>2</sub>Ph)<sub>2</sub>ClH-*nido*-6-ReB<sub>9</sub>H<sub>12</sub>]; nuclear magnetic resonance parameters of these and other related *nido*-rhenadecaborane cluster species, 1119–30
- New carbide clusters in the cobalt sub-group. Part 14. Synthesis and structural characterization of the anion  $[\text{Co}_{13}\text{C}_2(\text{CO})_{24}]^{3-}$  as its benzyltrimethylammonium salt, 1137–40
- Dynamic behaviour of carbon-metallated palladium hydrazone complexes. Crystal structures of  $[\{\text{Pd}[\text{CH}_2\text{CMe}_2\text{C}(\text{=N-NMePh})\text{Me}\text{Cl}\}_2]$  and  $[\{\text{Pd}[\text{CH}_2\text{C}(\text{=N-NMePh})\text{Bu}\text{Cl}\}_2]$ , 1155–62
- Synthesis of gold(I) and -(III) complexes with carbonyl-stabilized phosphorus ylides. Crystal structure of  $[\{\text{Au}(\text{PPh}_3)_2\}_2\mu\text{-C}(\text{PPh}_3)\text{CO}_2\text{Et}\}_2\text{ClO}_4$ , 1163–8
- Macrocyclic polyphosphane ligands. Cobalt(II) and nickel(II) complexes of 5*RS,8RS,16RS,19RS*-tetraphenyl-5,8,16,19-tetraphospha-1,12-dithiacyclodocosane (δ-L') and the crystal structure of  $[\text{Co}(\delta\text{-L}')][\text{BF}_4]_2\cdot 0.5\text{H}_2\text{O}$ , 1179–82
- Co-ordination chemistry of dimethylgold(III). Synthesis, structural studies, and fluxional behaviour of complexes with polydentate ligands, 1183–90
- Cluster chemistry. Part 31. An  $[\text{Ru}_3(\text{CO})_{12}]$  derivative with an  $[\text{Fe}_3(\text{CO})_{12}]$ -like structure: preparation and X-ray structure of  $[\text{Ru}_3(\mu\text{-CO})_2(\text{CO})_6\{\text{PPh}(\text{OMe})_2\}_4]$ , 1223–8
- Cluster chemistry. Part 32. Synthesis and X-ray crystal structure of  $[\text{Ru}_5(\mu_5\text{-}\eta^2\text{-C}_2\text{PPh}_2\text{-P})(\mu\text{-PPh}_2)(\text{CO})_{13}]$ , a complex containing an alkynyl ligand in extended interaction with an open Ru<sub>5</sub> cluster, 1229–34
- From diarylruthenium complexes to *ortho*-metallated ketones: a mechanistic and crystal structure study, 1235–42
- Crystal and molecular structures and magnetic properties of four new exchange-coupled copper(II) complexes derived from different 3-*N,N*-dialkylamino-1-propanols and pseudohalogens, 1243–8
- The crystal structure of diaquadichlorodimethyltin(IV)-purine (1/4), 1271–4
- Homo- and hetero-dinuclear hydride-bridged complexes containing cyclo-octadiene: the crystal and molecular structure of  $[\{\eta^5\text{-C}_6\text{H}_5\}_2\text{Ir}(\mu\text{-H})(\mu\text{-Cl})\text{IrH}_2(\text{PPh}_3)_2]$ , 1277–80
- Characterization of the adducts formed by Cu(CN) and Cu(NCS) with biquinoline. The crystal structure of the polymeric cyanocompound containing both linear and tetrahedral co-ordinated copper(I),  $[\{\text{Cu}_3(\text{bq})_2(\text{CN})_3\}_n]$ , 1285–8
- Crystal structures and interrelationships of the blue and green conformational isomers of tetrakis(trimethylarsine sulphide)cobalt(II) perchlorate, 1289–94
- Fluorophosphine complexes of rhodium(I) and iridium(I): towards the design of systems with extended metal-metal interactions. The crystal structure of  $[\{\text{IrCl}(\text{PF}_3)_2\}_2]$ , 1295–302
- Synthesis, structures, and reactivities of some pentamethylcyclopentadienyl-sulphur compounds, 1303–8
- New carbide clusters in the cobalt sub-group. Part 15. Synthesis and crystallographic characterization of di- $\mu_6$ -carbido-deca- $\mu$ -carbonyl-tridecacarbonyl-*polyhedro*-dodecarhodate(4–) as its tetrapropylammonium salt,  $[\text{N}(\text{C}_3\text{H}_7)_4]_4\cdot[\text{Rh}_{12}\text{C}_2(\text{CO})_{23}]$ , 1309–14
- Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 33. Reactions of  $[\text{W}(\equiv\text{CMe})(\text{CO})_2(\eta\text{-C}_5\text{H}_5)]$  with the dimetal compounds  $[\text{MRh}(\mu\text{-CO})_2(\eta\text{-C}_5\text{Me}_3)_2]$  ( $\text{M} = \text{Co}$  or Rh); X-ray crystal structure of  $[\text{Rh}_2\text{W}(\mu\text{-CO})(\mu_3\text{-CMe})(\text{CO})_2(\eta\text{-C}_5\text{H}_5)(\eta\text{-C}_5\text{Me}_3)_2]$ , 1315–22
- Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 34. Reactions of sulphur and selenium with the di-iron tungsten complexes  $[\text{Fe}_2\text{W}(\mu_3\text{-CR})(\mu\text{-CO})(\text{CO})_8(\eta\text{-C}_5\text{H}_5)]$  ( $\text{R} = \text{C}_6\text{H}_4\text{Me-4}$  or Me); crystal structures of  $[\text{Fe}_2\text{W}(\mu\text{-CC}_6\text{H}_4\text{Me-4})(\mu_3\text{-S})(\text{CO})_7(\eta\text{-C}_5\text{H}_5)]$  and  $[\text{Fe}_2\text{W}(\mu_3\text{-SCMe})(\text{CO})_8(\eta\text{-C}_5\text{H}_5)]$ , 1323–30
- Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 35. The synthesis and crystal structures of the compounds  $[\text{N}(\text{PPh}_3)_2][\text{W}_2\{\mu\text{-C}(\text{H})\text{C}_6\text{H}_4\text{Me-4}\}(\text{CO})_7(\eta\text{-C}_5\text{H}_5)]\cdot 0.5\text{Et}_2\text{O}$  and  $[\text{W}\{\text{C}(\text{H})\text{C}_6\text{H}_4\text{Me-4}\}\text{-}(\text{SnPh}_3)(\text{CO})_2(\eta\text{-C}_5\text{H}_5)]$ , 1331–8
- Synthesis and properties of the divalent 1,2-

## CRYSTAL STRUCTURE (contd)

- bis(dimethylphosphino)ethane (dmpe) complexes  $MCl_2(dmpe)_2$  and  $MMe_2(dmpe)_2$  ( $M = Ti, V, Cr, Mn, \text{ or } Fe$ ). *X*-Ray crystal structures of  $MCl_2(dmpe)_2$  ( $M = Ti, V, \text{ or } Cr$ ),  $MnBr_2(dmpe)_2$ ,  $TiMe_2Cl_0.7(dmpe)_2$ , and  $CrMe_2(dmpe)_2$ , 1339–48
- Reaction of bis(morpholiniothiocarbonyl) disulphide with iodine. Existence of a 1:1 charge-transfer precursory adduct in an oxidation reaction. Isolation and crystal structure of bis[3,5-di(*N*-morpholinio)-1,2,4-trithiolane] hexadecafluoride, 1349–54
- The reaction of  $[Os_3(\mu-H)_2(CO)_9L]$  ( $L = CO$  or  $PEt_3$ ) with dimethylcyanamide,  $Me_2NCN$ : *X*-Ray crystal structure of  $[Os_3(\mu-H)(\mu-NCHNMe_2)(CO)_{10}]$  and the reactions of this complex with acids, 1355–60
- Bromine nuclear quadrupole resonance studies of some hexabromostannates: *X*-Ray crystal structure of pyridinium hexabromostannate(IV),  $[Hpy]_2[SnBr_6]$ , 1399–404
- Preparation of 1,3,2-dithiazolium hexafluoroarsenate(V), preparation and crystal structures of 5-methyl-1,3,2,4-dithiadiazolium and 4-methyl-1,3,2-dithiazolium hexafluoroarsenate(V) and the reduction of these salts to stable free radicals, 1405–16
- Macrocyclic polyphosphane ligands. Cobalt(II) and nickel(II) complexes of the  $\gamma$  and  $\epsilon$  diastereoisomers of 4,7,13,16-tetraphenyl-4,7,13,16-tetraphospha-1,10-dithiacyclo-octadecane ( $L^1$ ) and the crystal structure of  $[Co(\epsilon-L^1)][BPh_4]_2 \cdot EtOH$ , 1425–30
- Reactions of bis(cyclopentadienyl)vanadium derivatives with nitrogen mono-oxide and the crystal structure of an oxo-bridged nitrosyl complex of vanadium, 1435–42
- Compartmental ligands. Part 11. Copper(II) complexes of 'half-unit' Schiff bases: crystal and molecular structures of one monomeric and of one dimeric complex, 1471–8
- Bimetallic cyano-bridged cations: preparation and hydride reduction of  $[(\eta^5-C_5H_5)_2L_2Ru(\mu-CN)ML'_2(\eta^5-C_5H_5)_2]PF_6$  [ $L_2, L'_2 = (PPh_3)_2, Ph_2PCH_2CH_2PPh_2$ ;  $M = Ru$  or  $Fe$ ]. Formation of  $[Ru(\eta^5-C_5H_5)(PPh_3)_2H_2]$  and *X*-ray crystal structure of  $[(\eta^5-C_5H_5)(Ph_2PCH_2CH_2PPh_2)Ru(\mu-CN)Ru(PPh_3)_2(\eta^5-C_5H_5)]PF_6$ , 1479–86
- Benzamidinorhodium complexes. *X*-Ray structures of  $[Rh\{CPh(NPh)_2\}(cod)]$  and  $[Rh_2\{\mu-CPh(NPh)_2\}_2(tfb)_2]$ , 1487–94
- Reactivity of the unsaturated anion decacarbonyltetra- $\mu$ -hydridotrihenate(1–) toward phenols. Crystal and molecular structures of the tetraethylammonium salts of the triangular cluster anion  $[Re_3(\mu-H)_3(\mu-OC_6F_5)(CO)_{10}]^-$  and of the binuclear anion  $[Re_2(\mu-OC_6H_5)_3(CO)_6]^-$ , 1507–12
- Preparation and properties of *cis*- $[W(N_2)_2(Ph_2PCH_2PPh_2)_2]$  and *trans*- $[M(N_2)_2(Ph_2PCH=CHPPh_2)_2]$  ( $M = Mo$  or  $W$ ), and the crystal structure of *cis*- $[W(N_2)_2(PMe_2Ph)_4]$ , 1523–6
- Synthesis and structural studies of some 1,1'-dichloroferrocene derivatives of platinum(II). Crystal and molecular structure of 2,2- $\mu$ - $[(1-2,5-6-\eta-cis-cyclo-octa-1,5-diene)platinio]-bis(1,1'-dichloroferrocene)$ , 1527–30
- The synthesis of  $NR_4[(Ta_6Cl_{12})(H_2O)_6]X_4$  ( $R = Me$  or  $Et$ ,  $X = Cl$  or  $Br$ ) by the spontaneous reduction of  $[Ta_6Cl_{12}]^{4+}$  to  $[Ta_6Cl_{12}]^{3+}$  in acidic media: *X*-ray structure analysis of  $NMe_4[(Ta_6Cl_{12})(H_2O)_6]Br_4$  (1985, 455), 1531–2
- Rhenium nitrosyl complexes with simple and with sterically demanding aromatic thiolate ligands: *X*-ray crystal structures of  $[PPh_4][Re_2(SC_6H_4Me-4)_7(NO)_2] \cdot CH_2Cl_2$  and  $[Re(SC_6H_3Pr'_2-2,6)_4(NO)]$ , 1533–42
- Structure and solvation of mercury(II) iodide, bromide, and chloride in pyridine solution; refinement of the crystal structure of diiodobis(pyridine)mercury(II),  $[HgI_2(py)_2]$ , 1597–604
- The preparation and crystal structure of  $(\beta)6SbF_3 \cdot 5SbF_5$ , 1623–32
- Synthesis and crystal structure of the layer compound  $Sb_3TeO_6Cl$ , 1633–6
- Studies of 2,5,6,10,8,10-tri- $\mu$ -hydro-nonahydro-*nido*-nonaborate(1–),  $[B_9H_{12}]^-$ : preparation, crystal and molecular structure, nuclear magnetic resonance spectra, electrochemistry, and reactions, 1645–54
- Bimetallic systems. Part 11. Heterobimetallic and unsymmetrical diplatinum complexes from *cis*- $[PtR_2(dppm-P)_2]$  ( $dppm = Ph_2PCH_2PPh_2$ ;  $R = Me, 1\text{-naphthyl}, \text{ or } C_6H_4Me-o$ ): crystal structure of  $[(C_6H_4Me-o)_2Pt(\mu-dppm)_2PtMe_2]$ , 1677–82
- Synthesis and structural characterisation of some *triangular*-platinum clusters containing isocyanide ligands, 1693–8
- Transition-metal co-ordination compounds of a novel aniline-based pyrazole derivative. *X*-Ray crystal structures of  $[N,N\text{-bis}(3,5\text{-dimethylpyrazol-1-ylmethyl})aminobenzene]\text{-dichlorocobalt(II)}$  and  $\text{-dibromocopper(II)}$ , 1699–706
- Sila-pharmaca. Part 32. Crystal and molecular structures of the (*R*)-enantiomer and the racemate of the antimuscarinic agent (cyclohexyl)phenyl[2-(pyrrolidin-1-yl)ethyl]silanol (sila-procyclidine), 1743–6
- Axially asymmetric metal alkyls. Part 3. Chemical, electrochemical, and structural studies of group 5A  $d^{0,1,2}$  metallocenes  $[M\{2-CH_2C_6H_4\}_2(\eta-C_5H_5)_2]^z$  ( $M = Nb$  or  $Ta$ ;  $z = 1-, 0, \text{ or } 1+$ ); synthesis of  $[Nb\{2-CH_2(C_6H_4)_2Me-2'\}X(\eta-C_5H_5)_2]$  ( $X = Cl$  or  $CO$ ) and  $[(\eta-C_5H_4)_2ClV]_2(2-CH_2C_6H_4)_2$ , and electrochemistry of  $[M(CH_2Ph)_2-\eta-C_1n(\eta-C_5H_5)_2]$  ( $n = 0, M = Nb, \text{ or } Ta$ ;  $n = 1, M = V$ ), 1747–60
- The structure of a dinuclear copper(I) complex of a Schiff-base ligand containing a copper-copper bond, 1771–4
- Dirhodium(II,II) tetra-acetate complexes with axially co-ordinated triphenylstibine, triphenylarsine, and dibenzyl sulphide ligands. The syntheses, properties, and *X*-ray crystal structures of  $[Rh_2(O_2CMe)_4(SbPh_3)_2]$ ,  $[Rh_2(O_2CMe)_4(AsPh_3)_2]$ , and  $[Rh_2(O_2CMe)_4\{S(CH_2Ph)_2\}_2]$ , 1775–80
- Reactions of some decaosmium clusters with electrophilic and nucleophilic reagents: *X*-ray structure analyses of  $[N(PPh_3)_2][Os_{10}C(CO)_{24}(\mu-I)]$ ,  $[Os_{10}C(CO)_{24}(\mu-I)_2]$ ,  $[N(PPh_3)_2][Os_{10}C(CO)_{22}(NO)I]$ ,  $[Os_{10}C(CO)_{23}\{P(OMe)_3\}(\mu-I)_2]$  and of two isomers of  $[Os_{10}C(CO)_{21}\{P(OMe)_3\}_4]$ , 1795–810
- High-co-ordination-number compounds of niobium and tantalum: Reactions of niobium and tantalum halides and sulphido-halides with sodium diethyldithiocarbamate. The crystal structures of  $[Nb(S_2CNET_2)_4]Br$ ,  $Nb(S_2CNET_2)_3S$ , and  $Ta(S_2CNET_2)_3(S_2)$ , 1821–8
- Studies in the flexibility of macrocycle ligands. Calculation of macrocycle cavity size by force-field methods. Crystal and molecular structures of  $[CoLCl][ClO_4]_2$  and  $[CuL][PF_6]_2$  ( $L = 2,13\text{-dimethyl-3,6,9,12,18-penta-azabicyclo}[12.3.1]octadecan-1(18),14,16\text{-triene}$ ), 1829–34
- Reaction between  $[Ru_3(CO)_{12}]$  and the tridentate phosphine ligand  $HC(PPh_2)_3$ ; *X*-ray crystal structures of complexes  $[Ru_3(CO)_9\{Ph_2PCHP(Ph)C_6H_4PPh\}]$ ,  $[Ru_2H(CO)_4(Ph_2PCHPPh_2)\{PhPC_6H_4C(O)\}]$ , and  $[Ru_2(CO)_4Cl(PPh_2)(dppm)]$ , 1835–42
- The crystal and molecular structure of  $[1,1,1,1\text{-}(CO)H(PPh_3)_2\text{-}arachno\text{-}1\text{-IrB}_3H_7]$  and some bonding considerations in *arachno*-type four-vertex metal ' $\pi$ -allyl' and 'borallyl' clusters, 1843–8
- Studies of phosphazenes. Part 25. Synthesis, nuclear magnetic resonance spectroscopy, and mode of formation of (aziridino)(triphenylphosphazeny)cyclotriphosphazenes. *X*-ray crystal structure and enzyme-inhibiting activity of  $N_3P_3(NPPh_3)(NC_2H_4)_5$ , 1881–90
- 1*H*-pyrrolo[2,3-*b*]pyridine (HL) ligands in rhodium(I) and iridium(I) chemistry. Crystal and molecular structures of  $[Rh_2(\mu-L)_2(nbd)]$  and  $[Rh_4(\mu-Cl)_2(\mu-L)_2(\mu-CO)_2(CO)_2(nbd)_2]$ , 1891–8
- Magnetic behaviour of tetrakis[2-(diethylaminoethanolato)isocyanatocopper(II)], a complex with an antiferromagnetic ground state; the crystal and molecular structure of the triclinic modification, 1909–14
- Complexes of organoaluminium compounds. Part 13. Preparation and nuclear magnetic resonance spectra of the arylamido-compounds  $AlMe_2(NHR')$  ( $R' = Ph, C_6H_4Me-o, C_6H_4Me-p, C_6H_3Me_2-2,6$ ) and the imido-compounds  $AlMe(NR')$ . Crystal and molecular structures of  $\{[AlMe_2(NHC_6H_4Me-o)]_2\}$  and  $\{[AlMe(NPh)]_6\}$ , 1929–34
- Organic chemistry of dinuclear metal centres. Part 8. Organo-iron-ruthenium chemistry. *X*-Ray structure of *trans*- $[FeRu(CO)_2(\mu-CO)_2(\eta-C_5H_5)_2]$ , 1935–44
- Crystal structures and magnetic properties of binuclear five-coordinate copper(II) complexes with a phenolate bridge and their catalytic functions in multielectron redox reactions, 1945–52
- Isolation and crystal structure of  $[Rh(PPh_3)_3(MeCN)][BF_4]$ , acetonitriletris(triphenylphosphine)rhodium(I) tetrafluoroborate, 1977–80
- Reactivity of  $[PPh_4][Fe_2(CO)_6\{\mu-CPhCPhC(CF_3)C(CF_3)H\}]$  toward electrophiles. *X*-Ray structure of  $[Fe_2(CO)_6\{\mu-CPhCPhC(CF_3)CHC(OEt)_2\}]$ , a product resulting from fluorine abstraction at a  $CF_3$  group and subsequent fluorine substitution by ethoxy-groups, 1981–4
- New carbonyl derivatives of niobium(I) and tantalum(I), 1989–96
- Routes of formation and crystal structure of an alkylperoxycobaloxime: bis[dimethylglyoximate(1–)](4-

## CRYSTAL STRUCTURE (contd)

- ethoxycarbonylbut-3-en-2-ylperoxo(pyridine)cobalt(III), 1997-2000
- Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 36. Reactions of the dimetal compounds  $[\text{ReM}(\equiv\text{CC}_6\text{H}_4\text{Me-4})(\text{CO})_9]$  ( $\text{M} = \text{Cr}, \text{Mo}, \text{or W}$ ) with octacarbonyldicobalt; crystal structures of  $[\text{Co}_2\text{WRe}(\mu_3\text{-CC}_6\text{H}_4\text{Me-4})(\text{CO})_{15}]$  and  $[\text{Co}_2\text{Re}(\mu_3\text{-CC}_6\text{H}_4\text{Me-4})(\text{CO})_{10}]$ , 2001-8
- Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 37. Methylene group transfer to carbon-metal multiple bonds; crystal structures of  $[\text{TiW}\{\mu\text{-C}(\text{C}_6\text{H}_4\text{Me-4})=\text{CH}_2\}(\mu\text{-CO})(\text{CO})(\eta\text{-C}_5\text{H}_5)_3]$  and  $[\text{PtW}\{\mu\text{-C}(\text{C}_6\text{H}_4\text{Me-4})=\text{CH}_2\}(\text{CO})_2(\text{PMe}_3)_2(\eta\text{-C}_5\text{H}_5)]$ , 2009-16
- Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 38. Ruthenium-tungsten compounds: crystal structures of  $[\text{RuW}(\mu\text{-Cl})(\mu\text{-CMe})(\text{Cl})(\text{CO})_2(\text{PPh}_3)_2(\eta\text{-C}_5\text{H}_5)]$  and  $[\text{RuW}_2(\mu_3\text{-C}_2\text{Me}_2)(\text{CO})_7(\eta\text{-C}_5\text{H}_5)_2]$ , 2017-24
- Trimethylphosphine as a reactive solvent: synthesis, crystal structures, and reactions of  $[\text{Ta}(\text{PMe}_3)_3(\eta^2\text{-CH}_2\text{PMe}_2)(\eta^2\text{-CHPMe}_2)]$  and  $[\text{W}(\text{PMe}_3)_4(\eta^2\text{-CH}_2\text{PMe}_2)\text{H}]$  and related studies, 2025-36
- Synthesis, structure, and bonding of fulvene complexes of titanium, molybdenum, and tungsten, 2037-50
- Metal complexes of vitamin B<sub>6</sub> related compounds. Crystal and molecular structures of aqua(5'-phosphopyridoxylidene)glycinate)copper(II) trihydrate and bis(pyridoxylidene)glycinate)nickel(II) hexahydrate, 2051-8
- Preparation and properties of  $\text{mer-}[\text{ReCl}(\text{N}_2)(\text{CNR})\{\text{P}(\text{OMe})_3\}_3]$  ( $\text{R} = \text{Me}, \text{Et}, \text{Bu}^t, \text{C}_6\text{H}_4\text{Me-4}, \text{or C}_6\text{H}_4\text{Cl-4}$ ) and  $[\text{ReCl}(\text{N}_2)(\text{CNMe})(\text{PPh}_3)\{\text{P}(\text{OEt})_3\}_2]$ . X-Ray crystal structure of  $\text{mer-}[\text{ReCl}(\text{N}_2)(\text{CNMe})\{\text{P}(\text{OMe})_3\}_3]$  and reductive cleavage of the isocyanide ligands to primary amines upon protonation, 2079-84
- X-Ray crystal structures and magnetic properties of azide-bridged binuclear copper(II) complexes containing the Schiff-base ligand derived from 2-pyridinecarbaldehyde and histamine. Structure-magnetism relationship, 2095-100
- Complexes of the platinum metals. Part 29. Pyridine-2-thiolate derivatives of ruthenium and osmium: X-ray crystal structures of  $[\text{Ru}(\text{C}_5\text{H}_4\text{NS})_2(\text{CO})_2(\text{PPh}_3)]$  and  $[\text{Ru}(\text{C}_5\text{H}_4\text{NS})_2(\text{CO})(\text{PPh}_3)]$ , 2101-12
- Bimetallic systems. Part 12. Mixed rhodium(I)-platinum(II) acetylide complexes containing bridging  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$ . Crystal structures of  $[(\text{MeC}\equiv\text{C})\text{Pt}(\mu\text{-dppm})_2(\sigma,\eta\text{-C}\equiv\text{CMe})\text{Rh}(\text{CO})]\text{PF}_6$  and of  $[\text{ClPt}(\mu\text{-dppm})_2(\sigma,\eta\text{-C}\equiv\text{CMe})\text{Rh}(\text{CO})]\text{PF}_6$ , 2121-30
- Bimetallic systems. Part 13. Platinum-manganese carbonyl complexes containing bridging  $\text{Ph}_2\text{PCH}_2\text{PPh}_2(\text{dppm})$  ligands: crystal structure of  $[(\text{OC})_3\text{Mn}(\mu\text{-dppm})_2\text{PtH}(\text{Br})]\text{BF}_4$ , 2131-8
- Reactions of co-ordinated ligands. Part 34. Synthesis, structure, and reactivity of cationic dieneruthenium complexes; crystal structures of  $[\text{Ru}(\eta^4\text{-C}_6\text{H}_9)(\text{CO})(\eta\text{-C}_5\text{H}_5)]\text{BF}_4$  and  $[\text{Ru}(\eta^2\text{-C}_6\text{H}_9)(\text{CO})(\eta\text{-C}_5\text{H}_5)]$ , 2145-54
- Crystal structure and spectroscopic and redox properties of the iron-sulphur cluster compound  $[\text{NEt}_4]_2[\text{Fe}_4\text{S}_4(\text{SC}_6\text{H}_4\text{NH}_2)_4]_4$ , 2161-6
- Oxoalkyls of rhenium(V) and -(VI). X-Ray crystal structures of  $(\text{Me}_4\text{ReO})_2\text{Mg}(\text{thf})_4$ ,  $[(\text{Me}_3\text{SiCH}_2)_4\text{ReO}]_2\text{Mg}(\text{thf})_2$ ,  $\text{Re}_2\text{O}_3\text{Me}_6$ , and  $\text{Re}_2\text{O}_3(\text{CH}_2\text{SiMe}_3)_6$ , 2167-76
- Unidentate versus symmetrically and unsymmetrically bidentate nitrate co-ordination in pyrazole-containing chelates. The crystal and molecular structures of (nitrate-*O*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]copper(II) nitrate, (nitrate-*O,O'*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]nickel(II) nitrate, and (nitrate-*O*)(nitrate-*O,O'*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]cadmium(II), 2177-84
- Preparation and crystal structure of  $[\text{AsPh}_4]_2[(\text{WCl}_5)_2\{\mu\text{-NC}(\text{CF}_3)_2\text{N}\}]$ , 2205-8
- Synthesis and X-ray crystal structure of the asymmetric trinuclear complex  $[\text{Ni}_3(\mu_3\text{-S})_2(\text{H}_2\text{O})(\text{PPh}_3)_3]\text{PF}_6$ , 2209-12
- A disagreement on the explanation of short and long As-O bonds of the  $(\text{As-O})_4$  ring in  $\text{As}_4(\text{CF}_3)_6\text{O}_6(\text{OH})_2$  in terms of  $\text{As}^{\text{III}}\text{-O}$  and  $\text{As}^{\text{V}}\text{-O}$  bonds, 2221-2
- Reactivity of  $[\text{NBu}_4]_2[\text{Mo}_2\text{Br}_6]$  with several uni- and poly-dentate phosphines. X-Ray structure of  $[\text{NBu}_4][\text{MoBr}_4(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)]$ , 2263-8
- The palladium-catalysed reaction between  $[\text{Re}_2(\text{CO})_{10}]$  and phosphines and the crystal and molecular structure of diaxial  $[\text{Re}_2(\text{CO})_8(\text{PMe}_2\text{Ph})_2]$ , 2277-82
- Stereochemical consequences of the two-electron oxidation of a dirhodium fulvalene complex: the X-ray crystal structures of *trans*- $[\text{Rh}_2(\text{CO})_2(\text{PPh}_3)_2(\eta^5\text{-}\eta^5\text{-C}_{10}\text{H}_8)]$  and *cis*- $[\text{Rh}_2(\text{CO})_2(\text{PPh}_3)_2(\eta^5\text{-}\eta^5\text{-C}_{10}\text{H}_8)]\text{PF}_6$ , 2283-90
- The synthesis, magnetic, electrochemical, and spectroscopic properties of diruthenium(II,II) tetra- $\mu$ -carboxylates and their adducts. X-Ray structures of  $\text{Ru}_2(\text{O}_2\text{CR})_4\text{L}_2$  ( $\text{R} = \text{Me}, \text{L} = \text{H}_2\text{O}$  or tetrahydrofuran;  $\text{R} = \text{Et}, \text{L} = \text{Me}_2\text{CO}$ ), 2321-6
- Copper complexes with quadridentate bis(pyrazolyl)thioether amine and tris(pyrazolyl)amine ligands. Structural characterization of the complexes  $[\text{Cu}(\text{NCS})(\text{tpea})][\text{Cu}(\text{NCS})_2]$  and  $[\text{CuCl}(\text{bdma})]\text{Cl}\cdot 2\text{H}_2\text{O}$ , 2327-32
- Reactivity of  $[\text{NiR}(\text{R}')\text{L}_2]$  compounds and the crystal structure of  $[\text{Ni}(\text{C}_2\text{Cl}_3)(\text{C}_6\text{H}_2\text{Me}_3\text{-2,4,6})(\text{PMe}_2\text{Ph})_2]$ , 2333-42
- Metallaborane chemistry. Part 14. Icosahedral  $\eta^6$ -arene carbametalaboranes of iron and ruthenium; molecular structures of *closo*- $[\text{1-}(\eta^6\text{-C}_6\text{H}_5\text{Me})\text{-2,4-Me}_2\text{-1,2,4-FeC}_2\text{B}_9\text{H}_9]$  and *closo*- $[\text{3-}(\eta^6\text{-C}_6\text{H}_6\text{-3,1,2-RuC}_2\text{B}_9\text{H}_{11})]$ , 2343-8
- Crystal structures and magnetism of binuclear iron(III) complexes with a linear oxo-bridge,  $[\text{Fe}_2\text{O}(\text{bbimae})_2\text{X}_2][\text{NO}_3]_2$  {bbimae = 2-[bis(benzimidazol-2-ylmethyl)amino]ethanol,  $\text{X} = \text{Cl}$  or  $\text{NCS}$ }, 2375-80
- Investigation into aroylhydrazones as chelating agents. Part 7. Synthesis and spectroscopic characterization of complexes of  $\text{Mn}^{\text{II}}, \text{Co}^{\text{II}}, \text{Ni}^{\text{II}}, \text{Cu}^{\text{II}}$ , and  $\text{Zn}^{\text{II}}$  with 2,6-diacetylpyridine bis(2-aminobenzoylhydrazone) and X-ray structure of chloro[2,6-diacetylpyridine bis(2-aminobenzoylhydrazone)](methanol)manganese(II) chloride monohydrate, 2387-92
- Trigonal bipyramidal penta-aquazinc(II): crystal structure of penta-aquazinc(II) bis(3,3',3''-phosphinetriyl)tripropionate)dizincate(II,II) heptahydrate, 2393-6
- Polyhedral ruthenaborane chemistry: characterization of several new ruthenaboranes by nuclear magnetic resonance spectroscopy, and the crystal and molecular structure of  $[\text{5,6,6-}(\text{PPh}_3)_3\text{-6-H-nido-6-RuB}_9\text{H}_{12}]$ , 2397-406
- Two unusual *closo*-type ruthenaboranes: preparation, molecular structure, and nuclear magnetic resonance properties of  $[\text{1,1,1-}(\text{PPh}_3)\text{HCl-1-RuB}_9\text{H}_7\text{-3,5-}(\text{PPh}_3)_2]$  and  $[\text{1,1-}(\text{PPh}_3)_2\text{-1-RuB}_{10}\text{H}_8\text{-2,5-}(\text{OEt})_2]$ , 2407-16
- Synthesis of trinuclear gold(I) and gold(III) complexes containing the tridentate bis(diphenylphosphino)methane ligand. Crystal structure of  $[\text{Cl}(\text{C}_6\text{F}_5)_2\text{Au}\{\text{Ph}_2\text{PCH}(\text{AuNC}_5\text{H}_5)\text{PPh}_2\}\text{AuCl}]$ , 2417-20
- Electrophilic nitrosyls: preparation, structure, and reactivity of *cis*-chloronitrosylbis(pyridine-2-carboxylato)ruthenium and related complexes, 2427-32
- Crystal structures of the difluorophosphate complexes,  $\text{Co}(\text{O}_2\text{PF}_2)_2\cdot 2\text{MeCN}$  and  $\text{Cu}(\text{O}_2\text{PF}_2)_2$ , 2433-6
- Synthesis of tetra- and penta-nuclear platinum-osmium carbido-cluster complexes from non-carbido-precursors: X-ray structural studies on  $[\text{Os}_3\text{Pt}(\mu\text{-H})_2(\mu_4\text{-C})(\text{CO})_{10}\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}]$ ,  $[\text{Os}_3\text{Pt}_2(\mu\text{-H})_2(\mu_5\text{-C})(\mu\text{-CO})(\text{CO})_9\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}_2]$ , and  $[\text{Os}_3\text{Pt}_2(\mu\text{-H})(\mu_5\text{-C})(\mu\text{-OMe})(\mu\text{-CO})(\text{CO})_9\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}_2]$ , 2437-48
- Reaction of the anion  $[\text{WCl}_4(\text{CBu}')^-]$  with tetrasulphur tetranitride. Formation and crystal structure of  $[\text{AsPh}_4][\text{WCl}_3\text{O}(\text{OS}_2\text{N}_2)]$ , 2453-6
- Crystal structure of tris(methylmercurio)sulphonium perchlorate, 2457-8
- Reactions of co-ordinated ligands. Part 35. Evidence for carbon-carbon double-bond cleavage of cyclopropenes in their reaction with dinuclear cobalt, rhodium, and iridium complexes; crystal structure and protolysis of  $[\text{Rh}_2(\mu\text{-CO})(\mu\text{-COCHCMe}_2\text{CH})(\mu\text{-C}_5\text{Me}_5)_2]$ , 2483-92
- Kinetics and mechanism of the equilibration reaction between (2,2',2''-nitrotriethoxy)nitrosylvanadate(1-) and cyanide. Crystal structures of sodium (2,2',2''-nitrotriethoxy)nitrosylvanadate(1-) sodium perchlorate tetrahydrate and of barium cyano(2,2',2''-nitrotriethoxy)nitrosylvanadate(I) pentahydrate, 2493-8
- The chemistry of heteroarylphosphorus compounds. Part 16. Unusual substituent effects on selenium-77 nuclear magnetic resonance chemical shifts of heteroaryl- and aryl-phosphine selenides. X-Ray crystal structure of tri(2-furyl)phosphine selenide, 2505-8
- The  $[\text{Fe}_3(\mu_3\text{-CR})(\text{CO})_{10}]^-$  cluster anions as building blocks for the synthesis of mixed-metal clusters. Part 1. Synthesis of mixed clusters  $[\text{MFe}_3(\mu_3\text{-CMe})(\text{CO})_{10}(\text{PPh}_3)]$  ( $\text{M} = \text{Cu}$  or  $\text{Au}$ ) and crystal structure of  $[\text{CuFe}_3(\mu_3\text{-CMe})(\text{CO})_{10}(\text{PPh}_3)]$ , 2521-4

**CRYSTAL STRUCTURE (contd)**

- Lewis-base adducts of Group 1B metal(I) compounds. Part 18. Stereochemistries and structures of the 1:1 neutral complexes of Cu<sup>I</sup>X with 1,10-phenanthroline (X = I) or 2,9-dimethyl-1,10-phenanthroline (X = I, Br, or Cl), 2531–40
- Lewis-base adducts of Group 1B metal(I) compounds. Part 19. Crystal structures of bis(1,10-phenanthroline)copper(I) perchlorate and dibromocuprate(I), 2541–6
- Interactions of [Mo(CO)<sub>6</sub>] and [Mo(CO)<sub>3</sub>(C<sub>6</sub>H<sub>5</sub>CH<sub>3</sub>)] with O<sub>2</sub>N<sub>2</sub>- and O<sub>2</sub>N<sub>3</sub>-donor macrocycles and the X-ray crystal structure of tetracarbonyl(6,7,16,17-tetrahydro-15H-dibenzo[*e,n*][1,4,8,12]dioxadiazacyclopentadecine)molybdenum-toluene (2/1), 2561–4
- Studies on spin-equilibrium iron(III) complexes. Part 1. Syntheses and magnetic properties of a new family of spin cross-over iron(III) complexes with a unidentate ligand over a wide range of the spectrochemical series and a quinqueidentate ligand derived from salicylaldehyde and di(3-aminopropyl)amine. X-Ray crystal structure of [4-azaheptamethylene-1,7-bis(salicylideneiminato)](4-methylpyridine)iron(III) tetraphenylborate, 2575–84
- Fragmentation of co-ordinated carbon disulphide and dithiocarbene ligands by nucleophilic attack at carbon: the crystal structure of [(Ph<sub>3</sub>P)Pt(μ-SMe)(μ-CSMe)PtI(PPH<sub>3</sub>)]·Me<sub>2</sub>CO, 2595–602
- Crystal and molecular structure and magnetic properties of linear trimeric copper(II) complexes with predominant ferromagnetic exchange interaction, 2609–14
- Indium derivatives of monothio-β-diketones and the X-ray structure of tris(benzoyl(thiobenzoyl)methanato-*O,S*)indium(III), 2623–8
- Complexes of molybdenum-(II) and -(IV) and tungsten(II) with sterically hindered thiolate ligands. Synthesis, reactivity, and X-ray crystal structures of [PPh<sub>4</sub>][Mo(SC<sub>6</sub>H<sub>4</sub>Pr<sup>3</sup>-2,4,6)<sub>3</sub>(CO)<sub>2</sub>] and [Mo(NNPh)(SC<sub>6</sub>H<sub>2</sub>Pr<sup>3</sup>-2,4,6)<sub>3</sub>(NCMe)], 2639–46
- Molybdenum, rhenium, and tungsten complexes with bi- and tridentate phosphinothiolate-ligands; structures of [Mo{PhP(CH<sub>2</sub>CH<sub>2</sub>S)<sub>2</sub>}<sub>2</sub>] and [Mo(NNMe<sub>2</sub>){PhP(CH<sub>2</sub>CH<sub>2</sub>S)<sub>2</sub>}<sub>2</sub>], 2647–54
- A novel pentameric hydrolysis product of SnMe<sub>2</sub>Cl<sub>2</sub>: crystal and molecular structure of [NH<sub>4</sub>Et<sub>3</sub>][(SnMe<sub>2</sub>Cl)<sub>5</sub>O<sub>3</sub>], 2683–6
- CYANIDE**
- Bimetallic systems. Part 7. Platinum and palladium dicyanides containing terminal or bridging Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub> and heterobimetallics with silver, gold, mercury, rhodium, iridium, or molybdenum, 279–84
- Spectrochemistry of solutions. Part 16. A Raman spectroscopic study of the complexation of mercury(II) by cyanide ligands in liquid ammonia at 293 K, 663–8
- Studies on transition-metal cyano-complexes. Part 4. Cyanide hydride complexes of Groups 6A and 8, 717–22
- Lewis-base adducts of group 1B metal(I) compounds. Part 17. Synthesis and crystal structures of adducts of copper(I) cyanide with nitrogen bases, 839–44
- On the effect of cyanide ion on the reaction of pentacyanonitrosylferrate(2-) with cysteine, 1191–4
- Characterization of the adducts formed by Cu(CN) and Cu(NCS) with biquinoline. The crystal structure of the polymeric cyano-compound containing both linear and tetrahedrally co-ordinated copper(I), [Cu<sub>3</sub>(bq)<sub>2</sub>(CN)<sub>3</sub>]<sub>n</sub>, 1285–8
- Bimetallic cyano-bridged cations: preparation and hydride reduction of [(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>L<sub>2</sub>Ru(μ-CN)ML<sub>2</sub>(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)]PF<sub>6</sub> [L<sub>2</sub>, L<sub>2</sub> = (PPh<sub>3</sub>)<sub>2</sub>, Ph<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>PPh<sub>2</sub>; M = Ru or Fe]. Formation of [Ru(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)(PPh<sub>3</sub>)<sub>3</sub>] and X-ray crystal structure of [(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)(Ph<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>PPh<sub>2</sub>)Ru(μ-CN)Ru(PPh<sub>3</sub>)<sub>2</sub>(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)]PF<sub>6</sub>, 1479–86
- Addition of proton and boron trifluoride at terminal and bridging cyano-ligands in dinuclear manganese compounds, 1609–12
- The kinetics and stoichiometry of silver(III) reduction by the octacyano-complexes of molybdenum(IV) and tungsten(IV), 1789–94
- Kinetics and mechanism of the equilibration reaction between (2,2',2''-nitrilotriethoxy)nitrosylvanadate(1-) and cyanide. Crystal structures of sodium (2,2',2''-nitrilotriethoxy)nitrosylvanadate(1-)-sodium perchlorate tetrahydrate and of barium cyano(2,2',2''-nitrilotriethoxy)nitrosylvanadate(1) pentahydrate, 2493–8

**CYANOETHYL**

- The co-ordination chemistry of manganese. Part 14. Synthesis of manganese(II) complexes of tertiary phosphine ligands containing 2-cyanoethyl groups, 135–40

**CYCLOBUTANE**

- Reduction-oxidation properties of organotransition-metal

complexes. Part 22. Stereospecific oxidative cyclopropane ring opening and reductive cyclobutane ring formation in polycyclic hydrocarbon complexes of iron; X-ray crystal structures of [Fe<sub>2</sub>(CO)<sub>6</sub>(η<sup>5</sup>:η<sup>5</sup>-C<sub>16</sub>H<sub>16</sub>)] [PF<sub>6</sub>]<sub>2</sub>·CH<sub>3</sub>NO<sub>2</sub> and [Fe<sub>2</sub>(CO)<sub>6</sub>(η<sup>4</sup>:η<sup>4</sup>-C<sub>16</sub>H<sub>16</sub>)], 1027–36

**CYCLOHEPTATRIENYL**

- Mono-η-cycloheptatrienyltitanium chemistry: synthesis, molecular and electronic structures, and reactivity of the complexes [Ti(η-C<sub>7</sub>H<sub>7</sub>)L<sub>2</sub>X] (L = tertiary phosphine, O- or N-donor ligand; X = Cl or alkyl), 669–84

**CYCLOHEXADIENYL**

- Reduction-oxidation properties of organotransition-metal complexes. Part 21. Synthesis and X-ray structural characterisation of the redox-related pair of cyclohexadienyl complexes [Mn(CO)(dppe)(η<sup>5</sup>-C<sub>6</sub>H<sub>6</sub>Ph)] and [Mn(CO)(dppe)(η<sup>5</sup>-C<sub>6</sub>H<sub>6</sub>Ph)] [PF<sub>6</sub>]<sub>2</sub>·0.5CH<sub>2</sub>Cl<sub>2</sub>, 1019–26
- Mechanism of addition of aryltrimethyl-silanes and -stannanes to tricarbonyl(cyclohexadienyl)ruthenium(II) cation, 1049–52
- Studies on the regioselective preparation of tricarbonyl(cyclohexadienyl)iron(1+) salts, 1723–6

**CYCLOHEXENYL**

- A theoretical study of three-centre M–H–C interactions, 1637–44

**CYCLOHEXYL**

- Organotin biocides. Part 2. Variable-temperature <sup>119</sup>Sn Mössbauer study of phenyl- and cyclohexyl-tin compounds, 1417–24

**CYCLO-OCTADIENE**

- Chemistry of platinum sulphido-complexes. Part 5. Synthesis and crystal and molecular structure of 3-(η-cyclo-octa-1,5-diene)bis(μ<sub>3</sub>-sulphido)-1,1,2,2-tetrakis(triphenylphosphine)diplatinum(II)rhodium(II) hexafluorophosphate-dichloromethane (1/1), [Pt<sub>2</sub>Rh(μ<sub>3</sub>-S)<sub>2</sub>(PPh<sub>3</sub>)<sub>4</sub>(η-C<sub>8</sub>H<sub>12</sub>)]PF<sub>6</sub>·CH<sub>2</sub>Cl<sub>2</sub>, 851–6
- Homo- and hetero-dinuclear hydride-bridged complexes containing cyclo-octadiene: the crystal and molecular structure of [(η<sup>4</sup>-C<sub>8</sub>H<sub>12</sub>)Ir(μ-H)(μ-Cl)IrH<sub>2</sub>(PPh<sub>3</sub>)<sub>2</sub>], 1277–80
- Synthesis and structural studies of some 1,1'-dichloroferrocene derivatives of platinum(II). Crystal and molecular structure of 2,2-μ-[(1-2,5-6-η-cis-cis-cyclo-octa-1,5-diene)platino]bis(1,1'-dichloroferrocene), 1527–30
- Oxygenation studies. Part 7. Catalytic dioxygenation of cyclo-octa-1,5-diene at a rhodium centre, 1591–6

**CYCLO-OCTATETRAENE**

- Synthesis of [Fe(η<sup>4</sup>-C<sub>8</sub>H<sub>8</sub>)(CO)<sub>2</sub>L] [L = MeNC, Pr<sup>n</sup>NC, Bu<sup>n</sup>NC, PhNC, 2,6-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>NC, or P(OMe)<sub>3</sub>] and proof of the applicability of the Woodward-Hoffmann rules to the fluxionality of [Fe(η<sup>4</sup>-C<sub>8</sub>H<sub>8</sub>)(CO)<sub>2</sub>(CNP<sup>r</sup>)], 693–8

**CYCLOPENTADIENYL**

- Reactions of co-ordinated ligands. Part 33. Mononuclear η<sup>2</sup>-vinyl complexes: synthesis, structure, and reactivity, 435–50
- Formation of substituted cyclopentadienyl ligands on tungsten *via* reactions between the alkyne complexes [W(CO)(R<sup>1</sup>C<sub>2</sub>R<sup>2</sup>)<sub>3</sub>] (R<sup>1</sup> = R<sup>2</sup> = Ph or Et; R<sup>1</sup> = Me, R<sup>2</sup> = Ph) and the alkyldiene compounds [W(≡CR)(CO)<sub>2</sub>(η-C<sub>5</sub>H<sub>5</sub>)] (R = C<sub>6</sub>H<sub>4</sub>Me-4 or Me); X-ray crystal structures of [W<sub>2</sub>(μ-CO)<sub>2</sub>(CO)(η-PhC<sub>2</sub>Ph)(η-C<sub>5</sub>Ph<sub>4</sub>R)(η-C<sub>5</sub>H<sub>5</sub>)] and [W<sub>2</sub>(μ-EtC<sub>2</sub>Et)(CO)<sub>4</sub>(η-C<sub>5</sub>Et<sub>4</sub>R)(η-C<sub>5</sub>H<sub>5</sub>)] (R = C<sub>6</sub>H<sub>4</sub>Me-4), 905–12
- Isolated CH stretching frequencies, methyl group geometry, and methyl CH bond lengths and strengths in tricarbonyl(η<sup>5</sup>-cyclopentadienyl)methylchromium(II), -molybdenum(II), and -tungsten(II), 1207–12
- Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 35. The synthesis and crystal structures of the compounds [N(PPh<sub>3</sub>)<sub>2</sub>][W<sub>2</sub>{μ-C(H)C<sub>6</sub>H<sub>4</sub>Me-4}(CO)<sub>2</sub>}(η-C<sub>5</sub>H<sub>5</sub>)]·0.5Et<sub>2</sub>O and [W{=C(H)C<sub>6</sub>H<sub>4</sub>Me-4}(SnPh<sub>3</sub>)(CO)<sub>2</sub>}(η-C<sub>5</sub>H<sub>5</sub>)], 1331–8
- Photochemistry of dicarbonyl(η<sup>5</sup>-cyclopentadienyl)-methyl- and -ethyl-iron and -ruthenium complexes in solutions at -30 °C and in frozen gas matrices at 12 K, 1365–74
- Reactions of bis(cyclopentadienyl)vanadium derivatives with nitrogen mono-oxide and the crystal structure of an oxo-bridged nitrosyl complex of vanadium, 1435–42
- Geometry-dependent carbon-13 chemical shifts in (η<sup>6</sup>-[2.2]cyclophane)(η<sup>5</sup>-cyclopentadienyl)iron(II) hexafluorophosphates, 1661–4
- Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 37. Methylene group transfer to carbon-metal multiple bonds; crystal structures of [TiW{μ-C(C<sub>6</sub>H<sub>4</sub>Me-4)=CH<sub>2</sub>}(μ-CO)(CO)(η-C<sub>5</sub>H<sub>5</sub>)<sub>3</sub>] and [PtW{μ-C(C<sub>6</sub>H<sub>4</sub>Me-4)=CH<sub>2</sub>}(CO)<sub>2</sub>(PMe<sub>3</sub>)<sub>2</sub>(η-C<sub>5</sub>H<sub>5</sub>)], 2009–16



**CYCLOPENTADIENYLIDENEALKYL**

Studies on cyclic bis( $\eta^5$ : $\sigma$ -2-cyclopentadienyldiene-ethyl)- and bis( $\eta^5$ : $\sigma$ -4-cyclopentadienyldienebutyl)-molybdenum compounds, 1585-90

**CYCLOPHANE**

Geometry-dependent carbon-13 chemical shifts in ( $\eta^6$ -[2.2]cyclophane)( $\eta^5$ -cyclopentadienyl)iron(II) hexafluorophosphates, 1661-4

**CYCLOPROPANE**

Reduction-oxidation properties of organotransition-metal complexes. Part 20. Oxidative and thermolytic cyclopropane ring-opening reactions; X-ray crystal structure of  $[\text{Fe}_2(\text{CO})_6(\eta^4:\eta^4\text{-C}_6\text{H}_8)]$ , 699-706

Reduction-oxidation properties of organotransition-metal complexes. Part 22. Stereospecific oxidative cyclopropane ring opening and reductive cyclobutane ring formation in polycyclic hydrocarbon complexes of iron; X-ray crystal structures of  $[\text{Fe}_2(\text{CO})_6(\eta^5:\eta^5\text{-C}_{16}\text{H}_{16})][\text{PF}_6]_2 \cdot \text{CH}_3\text{NO}_2$  and  $[\text{Fe}_2(\text{CO})_6(\eta^5:\eta^4\text{-C}_{16}\text{H}_{16})]$ , 1027-36

**CYCLOPROPENE**

Reactions of co-ordinated ligands. Part 35. Evidence for carbon-carbon double-bond cleavage of cyclopropenes in their reaction with dinuclear cobalt, rhodium, and iridium complexes; crystal structure and protolysis of  $[\text{Rh}_2(\mu\text{-CO})(\mu\text{-COCHCMe}_2\text{CH})(\mu\text{-C}_5\text{Me}_5)_2]$ , 2483-92

**CYCLOPROPENIUM**

Annelation of ring-opened arylcyclopropenium ions to co-ordinated cyclo-octatetraene, and the X-ray crystal structure of  $[\text{Fe}(\text{CO})_2(\sigma\eta^3\text{-C}_8\text{H}_6\text{Ph}_3)]$ , 777-82

**CYCLOPROPYLEMETHYL**

Reaction of transition-metal carbonylate anions and 1,1,1-tris(halogenomethyl)ethane. X-Ray crystal structures of tricarbonyl( $\eta^5$ -cyclopentadienyl)(1-methylcyclopropylethyl)tungsten(II), and tetraethylammonium enneacarbonyldodirhenate(O), 931-40

**CYCLOTRIAZATHIENE**

Reaction of trithiazyl trichloride, (NSCl)<sub>3</sub>, with triphenylphosphine or triphenylphosphine metal complexes. X-Ray crystal structure of aminotriphenylphosphonium chloride-dichloromethane (1/1),  $[\text{Ph}_3\text{PNH}_2]\text{Cl} \cdot \text{CH}_2\text{Cl}_2$ , 1043-8

Thiazyl chloride complexes of ruthenium(II), 2449-52

**CYCLOTRIPHOSPHAZATRIENE**

Mass spectrometric studies on cyclo- and poly-phosphazenes. Part 2. Oligomerization of hexa(aryloxy)cyclotriphosphazatrienes, 1547-54

**CYCLOTRIPHOSPHAZENE**

Studies of phosphazenes. Part 21. Associative and dissociative pathways in the aminolysis reactions of halogenocyclotriphosphazenes, 285-90

Studies of phosphazenes. Part 22. High-field nuclear magnetic resonance investigation of novel isomeric oxophosphazadienes, 1431-4

Studies of phosphazenes. Part 25. Synthesis, nuclear magnetic resonance spectroscopy, and mode of formation of (aziridino)(triphenylphosphazeny)cyclotriphosphazenes. X-ray crystal structure and enzyme-inhibiting activity of  $\text{N}_3\text{P}_3(\text{NPPH}_3)(\text{NC}_2\text{H}_4)_3$ , 1881-90

Studies of phosphazenes. Part 21. Associative and dissociative pathways in the aminolysis reactions of halogenocyclotriphosphazenes (1985, 285), 2459-60

**CYMENE**

Mononuclear  $\eta^6$ -*p*-cymeneosmium(II) complexes and their reactions with  $\text{Al}_2\text{Me}_6$  and other methylating reagents, 573-8

**CYSTEINE**

On the effect of cyanide ion on the reaction of pentacyanonitrosylferrate(2-) with cysteine, 1191-4

A kinetic study of the complexation of cysteine and related compounds with aqueous vanadium(II) and vanadium(III) at approximately neutral pH; the mediating role of sulphur compounds in electron transfer, 2461-8

**CYSTINE**

On the effect of cyanide ion on the reaction of pentacyanonitrosylferrate(2-) with cysteine, 1191-4

**DANSYLGLYCINATE**

The effect of a dansyl group on the co-ordinative ability of *N*-protected amino acids. Part 1. Behaviour of the copper(II) ion-*N*-dansylglycinate system in aqueous and methanolic solution, 2363-8

**DEALKYLATION**

Kinetic studies of oxidative dealkylation of alkylcobalamins by hexachloroplatinate(IV), 1375-80

**DECABORANE**

Reactions of 6,6'-bis(*nido*-decaboranyl) oxide and 6-hydroxy-*nido*-decaborane with dihalogenobis(phosphine) complexes of nickel, palladium, and platinum, and some related chemistry; nuclear magnetic resonance investigations and the crystal and molecular structures of bis(dimethylphosphine)-di- $\mu$ -(2,3,4- $\eta^3$ -*nido*-hexaboranyl)-diplatinum(*Pt-Pt*),  $[\text{Pt}_2(\mu\text{-}\eta^3\text{-B}_6\text{H}_9)_2(\text{PMe}_2\text{Ph})_2]$ , and of 2,4-dichloro-1,1-bis(dimethylphenylphosphine)-*closo*-1-nickeladecaborane,  $[(\text{PhMe}_2\text{P})_2\text{NiB}_9\text{H}_7\text{Cl}_2]$ , 953-72

Gold(I) complexes of 1,2-ditertiary phosphino-*o*-carborane ligands: two-, three-, and four-co-ordination, 1387-90

**DECARBOXYLATION**

Acid and basic properties of the hydroxycarbonyl complex  $[\text{IrCl}_2(\text{CO}_2\text{H})(\text{CO})(\text{PMe}_2\text{Ph})_2]$ , 857-60

**DECOMPOSITION**

Kinetic and structural investigations of  $[\text{Fe}^{\text{III}}(\text{edta})]^-$  [ $\text{edta}$  = ethylenediaminetetraacetate(4-)] catalysed decomposition of hydrogen peroxide, 493-502

Some alkylplatinum(II) complexes and studies of the photochemical and thermal decomposition of the  $[\text{Pt}_2\text{Et}(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)_2(\text{Ph}_2\text{PCH}_2\text{PPh}_2\text{-P})]^+$  cation, 2421-6

Studies on singlet oxygen in aqueous solution. Part 4. The 'spontaneous' and catalysed decomposition of hydrogen peroxide, 2525-30

**DEUTERIATION**

Ligand reactivity in polypyridine complexes; the deuteration of the bis(2,2':6',2''-terpyridine)ruthenium(II) cation, 2687-90

**DIACETYLPIRIDINE**

The template synthesis and crystal and molecular structure of a seven-co-ordinate manganese(II) complex with 2,6-diacetylpyridine mono(2-aminobenzoylhydrazone), 215-8

**DIALKYL DISELENIDE**

Pyramidal inversions and 1,2-metal shifts in pentacarbonyl-chromium, -molybdenum, and -tungsten derivatives of dialkyl disulphides and dialkyl diselenides. A nuclear magnetic resonance investigation, 1561-8

**DIALKYL DISULPHIDE**

Pyramidal inversions and 1,2-metal shifts in pentacarbonyl-chromium, -molybdenum, and -tungsten derivatives of dialkyl disulphides and dialkyl diselenides. A nuclear magnetic resonance investigation, 1561-8

**DIAMINE**

Synthesis of  $\alpha$ -lithioarylmethanes of *m*-xylene and its  $\alpha$ -trimethylsilyl derivatives; crystal structure of  $[\{\text{Li}(\text{Me}_2\text{NCH}_2\text{CH}_2\text{NMe}_2)_2\}\{\text{C}_6\text{H}_4(\text{CHSiMe}_3)_2\text{-}m\}]$ , 337-44

Reaction of some aliphatic diamines with four-co-ordinated unsymmetrical ketoenamine copper(II) and nickel(II) complexes, 803-6

Palladium(II,IV) mixed-valence complexes of 1,2-diaminoethane, 1,3-diaminopropane, and diethylenetriamine: syntheses, electronic, infrared, Raman, and resonance Raman spectra and X-ray studies, 815-20

**DIARSENE**

Purification and X-ray crystal structure of bis[tris(trimethylsilyl)methyl]diarsene, 383-6

**DIASTEREOISOMERISM**

Diastereoisomeric organophosphorus compounds. Part 4. Proton and phosphorus-31 nuclear magnetic resonance spectra of compounds of the type  $[\text{RR}'\text{P}(\text{X})_2\text{Y}]$  and  $\text{RR}'\text{P}(\text{X})\text{-Y}(\text{Z})\text{PRR}'$  ( $\text{R} = \text{CH}_3$ ,  $\text{R}' = \text{t-C}_4\text{H}_9$ ) (1984, 2803), 871-2

**DIAZATETRAPHOSPHACYCLO-OCTADECANE**

Macrocyclic polyphosphane ligands. Iron(II), cobalt(II), and nickel(II) complexes of (4*RS*,7*RS*,13*SR*,16*SR*)-tetraphenyl-1,10-dipropyl-1,10-diaza-4,7,13,16-tetraphosphacyclo-octa-*decane*: crystal structures of their tetraphenylborate derivatives, 479-86

**DIAZENIDE**

Complexes of molybdenum-(II) and -(IV) and tungsten(II) with sterically hindered thiolate ligands. Synthesis, reactivity, and X-ray crystal structures of  $[\text{PPh}_4][\text{Mo}(\text{SC}_6\text{H}_4\text{Pr}^i_3\text{-2,4,6})_3(\text{CO})_2]$  and  $[\text{Mo}(\text{NNPh})(\text{SC}_6\text{H}_4\text{Pr}^i_3\text{-2,4,6})_3(\text{NMe})]$ , 2639-46

**DIAZONIUM**

The mechanisms of the reactions between hydrido-complexes and diazonium salts. Part 1. The reactions of *trans*-[PtH(Cl)(PEt<sub>3</sub>)<sub>2</sub>], 2059-66

The mechanisms of the reactions between hydrido-complexes and diazonium salts. Part 2. The reactions of *cis,mer*-

**DIAZONIUM** (contd)[RhHCl<sub>2</sub>(PEtPh<sub>2</sub>)<sub>3</sub>], 2067–78**DIBENZODIOXADIAZACYCLOPENTADECINE**Interactions of [Mo(CO)<sub>6</sub>] and [Mo(CO)<sub>3</sub>(C<sub>6</sub>H<sub>5</sub>CH<sub>3</sub>)<sub>3</sub>] with O<sub>2</sub>N<sub>2</sub>- and O<sub>2</sub>N<sub>3</sub>-donor macrocycles and the X-ray crystal structure of tetracarbonyl(6,7,16,17-tetrahydro-15H-dibenzo[*e,n*][1,4,8,12]dioxadiazacyclopentadecine)molybdenum-toluene (2/1), 2561–4**DIBORANE**

Contributions to the chemistry of boron. Part 160. A convenient synthesis of catecholborane and diborane, 1689–92

**DICARBADODECABORANE**Metallaborane chemistry. Part 14.<sup>1</sup> Icosahedral η<sup>6</sup>-arene carbametallaboranes of iron and ruthenium; molecular structures of *closo*-[1-(η<sup>6</sup>-C<sub>6</sub>H<sub>5</sub>Me)-2,4-Me<sub>2</sub>-1,2,4-FeC<sub>2</sub>B<sub>9</sub>H<sub>9</sub>] and *closo*-[3-(η<sup>6</sup>-C<sub>6</sub>H<sub>5</sub>)-3,1,2-RuC<sub>2</sub>B<sub>9</sub>H<sub>11</sub>], 2343–8**DICARBAPALLADADODECABORANE**Carbaborane derivatives of the late- and post-transition elements. Part 3. Structural consequences of ligand substitution in palladadicarbododecaboranes 3-L<sub>2</sub>-3,1,2-PdC<sub>2</sub>B<sub>9</sub>H<sub>11</sub>. The crystal and molecular structures of 3-[Me<sub>2</sub>N(CH<sub>2</sub>)<sub>2</sub>NMe<sub>2</sub>]-3,1,2-PdC<sub>2</sub>B<sub>9</sub>H<sub>11</sub> and 3-(PMe<sub>3</sub>)<sub>2</sub>-3,1,2-PdC<sub>2</sub>B<sub>9</sub>H<sub>11</sub>, 761–70**DIELECTRIC**

Beryllocene: A microwave dielectric loss study, 1761–6

**DIENE**

Organoruthenium(II) complexes formed by insertion reactions of some vinyl compounds and conjugated dienes into a hydrido-ruthenium bond, 873–8

Reactions of co-ordinated ligands. Part 34. Synthesis, structure, and reactivity of cationic dieneruthenium complexes; crystal structures of [Ru(η<sup>6</sup>-C<sub>6</sub>H<sub>8</sub>(CO)(η-C<sub>5</sub>H<sub>5</sub>)] [BF<sub>4</sub>] and [Ru(η<sup>3</sup>-C<sub>6</sub>H<sub>9</sub>(CO)(η-C<sub>5</sub>H<sub>5</sub>)]<sub>2</sub>, 2145–54

Co-ordinatively unsaturated diene complexes of tungsten(II) and their reactions with nucleophiles to give six- and seven-coordinate derivatives, 2231–8

**DIETHYLAMINOETHANOLATE**

Magnetic behaviour of tetrakis[(2-diethylaminoethanolato)isocyanatocopper(II)], a complex with an antiferromagnetic ground state; the crystal and molecular structure of the triclinic modification, 1909–14

**DIETHYLDITHIOCARBAMATE**Zinc-sulphur bond enthalpy: its determination in bis(diethyldithiocarbamato)zinc(II), 369–72  
Electrostatic solvent effect on the formation of the mixed-chelate complex (acetylacetonato)(diethyldithiocarbamato)-copper(II), 987–90High-co-ordination-number compounds of niobium and tantalum: Reactions of niobium and tantalum halides and sulphido-halides with sodium diethyldithiocarbamate. The crystal structures of [Nb(S<sub>2</sub>CNEt<sub>2</sub>)<sub>4</sub>]Br, Nb(S<sub>2</sub>CNEt<sub>2</sub>)<sub>3</sub>S, and Ta(S<sub>2</sub>CNEt<sub>2</sub>)<sub>3</sub>(S<sub>2</sub>), 1821–8**DIFLUOROPHOSPHATE**

Difluorophosphate complexes of chromium, manganese, iron, cobalt, and nickel, 707–10

Crystal structures of the difluorophosphate complexes, Co(O<sub>2</sub>PF<sub>2</sub>)<sub>2</sub>·2MeCN and Cu(O<sub>2</sub>PF<sub>2</sub>)<sub>2</sub>, 2433–6**DIFLUOROPHOSPHINE SULPHIDE**

Determination of the molecular structure of difluorophosphine sulphide by the combined analysis of data from electron diffraction, microwave spectroscopy, and liquid crystal nuclear magnetic resonance spectroscopy, 755–60

**DIHYDROGEN**Hydrogen generation by hydrolysis of sodium tetrahydroborate: effects of acids and transition metals and their salts, 307–14  
Heteropolytungstates as catalysts for the photochemical reduction of oxygen and water, 395–400**DI-IMINE**

Application of photoelectron spectroscopy to molecular properties. Part 19. Electronic structure of tris(α-di-imino) complexes of ruthenium(0), 43–50

**DIKETONATE**Indium derivatives of monothio-β-diketones and the X-ray structure of tris[benzoyl(thio)benzoyl]methanato-*O,S*]indium(III), 2623–8**DIMETHYLAMIDOGALLANE**The molecular structure of gaseous dimethylamidogallane: characterization of the dimer [Me<sub>2</sub>NGaH<sub>2</sub>]<sub>2</sub> by electron diffraction and vibrational spectroscopy, 807–14**DIMETHYLAMINOPROPANOLATE**

Crystal and molecular structures and magnetic properties of

bromo(3-dimethylaminopropan-1-olato)copper(II), chloro(3-dimethylaminopropan-1-olato)copper(II), and (3-diethylaminopropan-1-olato)isocyanatocopper(II), 913–20

**DIMETHYLFORMAMIDE**Ligand substitution on (*N,N*-dimethylformamide)[2,2',2''-tri(*N,N*-dimethylamino)triethylamine]cobalt(II), 413–6**DIMETHYLGLYOXIMATE**

Routes of formation and crystal structure of an alkylperoxycobaloxime: bis(dimethylglyoximate(1-))[(4-ethoxycarbonylbut-3-en-2-ylperoxo)(pyridine)cobalt(III)], 1997–2000

**DIMETHYLPHOSPHINOMETHYLENE**Trimethylphosphine as a reactive solvent: synthesis, crystal structures, and reactions of [Ta(PMe<sub>3</sub>)<sub>3</sub>(η<sup>2</sup>-CH<sub>2</sub>PMe<sub>2</sub>)(η<sup>2</sup>-CHPMe<sub>2</sub>)] and [W(PMe<sub>3</sub>)<sub>4</sub>(η<sup>2</sup>-CH<sub>2</sub>PMe<sub>2</sub>)H] and related studies, 2025–36**DIMETHYLPYRAZOLATE**Pyrazolate A-frame rhodium complexes. Crystal structures of [Rh<sub>2</sub>(μ-dmpz)(CO)<sub>2</sub>(μ-dppm)<sub>2</sub>][ClO<sub>4</sub>] and [Rh<sub>2</sub>(μ-dmpz)<sub>2</sub>(CO)<sub>2</sub>(μ-dppm)<sub>2</sub>][ClO<sub>4</sub>], 973–80**DIMETHYLSILYL**

Determination of the molecular structures and conformations of methylbis(methylsilyl)amine and bis(dimethylsilyl)methylamine in the gas phase by electron diffraction, 191–8

**DIMETHYL SULPHOXIDE**

Reactions in mixed non-aqueous systems containing sulphur dioxide. Part 6. The reaction of metal oxides with dimethyl sulphoxide-sulphur dioxide, 99–100

Equilibrium and kinetic study of pyridine binding to phthalocyaninatoiron(II) in dimethyl sulphoxide, 1107–12

Equilibrium and kinetic study of the reaction between phthalocyaninatoiron(II) and carbon monoxide in dimethyl sulphoxide in the presence of pyridine. Evidence for the formation of a transient, 1113–8

**DINITROGEN**The preparation and properties of some diphosphines R<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>PR<sub>2</sub> (R = alkyl or aryl) and of their rhenium(I) dinitrogen derivatives, 1131–6

Electron-transfer reactions in nitrogen fixation. Part 1. The electrocatalysis of dinitrogen, hydride, isocyanide, and carbonyl complexes of molybdenum: intermediates, mechanisms, and energetics, 1255–64

Preparation and properties of *cis*-[W(N<sub>2</sub>)<sub>2</sub>(Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>)<sub>2</sub>] and *trans*-[M(N<sub>2</sub>)<sub>2</sub>(Ph<sub>2</sub>PCH=CHPh<sub>2</sub>)<sub>2</sub>] (M = Mo or W), and the crystal structure of *cis*-[W(N<sub>2</sub>)<sub>2</sub>(PMe<sub>2</sub>Ph)<sub>4</sub>], 1523–6Preparation and properties of *mer*-[ReCl(N<sub>2</sub>)(CNR){P(OMe)<sub>3</sub>]<sub>3</sub>] (R = Me, Et, Bu<sup>t</sup>, C<sub>6</sub>H<sub>4</sub>Me-4, or C<sub>6</sub>H<sub>4</sub>Cl-4) and [ReCl(N<sub>2</sub>)(CNMe)(PPh<sub>3</sub>){P(OEt)<sub>3</sub>]<sub>2</sub>]. X-Ray crystal structure of *mer*-[ReCl(N<sub>2</sub>)(CNMe){P(OMe)<sub>3</sub>]<sub>3</sub>] and reductive cleavage of the isocyanide ligands to primary amines upon protonation, 2079–84

Nitrogen-15 nuclear magnetic resonance relaxation mechanisms in dinitrogen complexes of molybdenum, tungsten, rhenium, and osmium, 2473–8

**DINITROGEN TETRAOXIDE**Electrochemical studies in HNO<sub>3</sub>-N<sub>2</sub>O<sub>4</sub> mixtures: corrosion of stainless steel in HNO<sub>3</sub>-N<sub>2</sub>O<sub>4</sub> mixtures and the effect of inhibitors, 2551–4**DIOXANE**

Influence of decreasing solvent polarity (dioxane-water mixtures) on the stability and structure of binary and ternary complexes of adenosine 5'-triphosphate and uridine 5'-triphosphate, 2291–304

**DIOXYGEN**Rate parameters for oxygen and carbon monoxide binding to a liposome-embedded heme under physiological conditions, 65–8  
Phosphocholine-substituted 5,10,15,20-tetraphenylporphyrinatoiron(II): oxygen carrier under physiological conditions, 275–8Complexes of the platinum metals. Part 24. The role of dioxygen in the reactions of trifluoroacetic acid with the rhodium and iridium nitrosyls [M(NO)(PPh<sub>3</sub>)<sub>3</sub>], 617–20

Studies on singlet oxygen in aqueous solution. Part 1. Formation of singlet oxygen from hydrogen peroxide with two-electron oxidants, 1141–6

Studies on singlet oxygen in aqueous solution. Part 2. Water-soluble square-planar nickel complexes as quenchers, 1147–50

Studies on singlet oxygen in aqueous solution. Part 3. The decomposition of peroxy-acids, 1151–4

Oxygenation studies. Part 7. Catalytic dioxygenation of cyclo-octa-

**DIOXYGEN (contd)**

1,5-diene at a rhodium centre, 1591-6

Studies on singlet oxygen in aqueous solution. Part 4. The 'spontaneous' and catalysed decomposition of hydrogen peroxide, 2525-30

**DIPHOSPHANE**Diastereoisomeric organophosphorus compounds. Part 4. Proton and phosphorus-31 nuclear magnetic resonance spectra of compounds of the type  $[\text{RR}'\text{P}(\text{X})_2\text{Y}]$  and  $\text{RR}'\text{P}(\text{X})\text{-Y}(\text{Z})\text{PRR}'$  (R = CH<sub>3</sub>, R' = t-C<sub>4</sub>H<sub>9</sub>) (1984, 2803), 871-2**DIPHOSPHINE**Bimetallic systems. Part 7. Platinum and palladium dicyanides containing terminal or bridging Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub> and heterobimetallics with silver, gold, mercury, rhodium, iridium, or molybdenum, 279-84The preparation and hydride reduction of dicationic dicarbonyl complexes of osmium(II); the crystal and molecular structure of *trans*-bis[1,2-bis(diphenylphosphino)ethane-PP']carbonylformylosmium(II) hexafluoroantimonate-dichloromethane (1/1), 387-94Bimetallic systems. Part 8. Heterobimetallic di-isonitrile or isonitrile-carbonyl complexes of rhodium or iridium bridged to silver or gold by Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>, 511-6Synthesis and characterisation of 1,2-bis(dimethylphosphino)ethane (dmpe) complexes of chromium(0) and -(IV): X-ray crystal structures of *trans*-Cr(N<sub>2</sub>)<sub>2</sub>(dmpe)<sub>2</sub>, *cis*-Cr(CO)<sub>2</sub>(dmpe)<sub>2</sub>, Cr(C<sub>2</sub>Ph<sub>2</sub>)<sub>2</sub>(dmpe), and CrH<sub>4</sub>(dmpe)<sub>2</sub>, 685-92The addition of protic acids to [Mn<sub>2</sub>(CO)<sub>5</sub>(Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>)<sub>2</sub>] to give bridging hydrido-compounds, 743-8Interconversion of 42- and 44-electron platinum *triangulo*-clusters using chelating tertiary phosphine ligands and the structural characterisation of [1,3-bis(diphenylphosphino)propane]-tris(μ-sulphur dioxide)bis(tricyclohexylphosphine)triplatinum-benzene (1/2), [Pt<sub>3</sub>(μ-SO<sub>2</sub>)<sub>3</sub>]{P(C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}<sub>2</sub>(dppp)}·2C<sub>6</sub>H<sub>6</sub>, 845-50Alkyl, hydrido, and tetrahydroaluminato complexes of manganese with 1,2-bis(dimethylphosphino)ethane (dmpe). X-Ray crystal structures of Mn<sub>2</sub>(μ-C<sub>6</sub>H<sub>11</sub>)<sub>2</sub>(C<sub>6</sub>H<sub>11</sub>)<sub>2</sub>(μ-dmpe), (dmpe)<sub>2</sub>Mn(μ-H)<sub>2</sub>AlH(μ-H)<sub>2</sub>AlH(μ-H)<sub>2</sub>Mn(dmpe)<sub>2</sub>, and Li<sub>4</sub>{MnH(C<sub>2</sub>H<sub>4</sub>)[CH<sub>2</sub>(Me)PCH<sub>2</sub>CH<sub>2</sub>PMe<sub>2</sub>]}<sub>2</sub>·2Et<sub>2</sub>O, 921-30Pyrazolate A-frame rhodium complexes. Crystal structures of [Rh<sub>2</sub>(μ-dmpz)(CO)<sub>2</sub>(μ-dppm)]<sub>2</sub>[ClO<sub>4</sub>]<sub>2</sub> and [Rh<sub>2</sub>(μ-dmpz)I<sub>2</sub>(CO)<sub>2</sub>(μ-dppm)]<sub>2</sub>[ClO<sub>4</sub>]<sub>2</sub>, 973-80Bimetallic systems. Part 9. The synthesis of and nuclear magnetic resonance studies on 10-membered ring complexes of type [(OC)<sub>2</sub>M<sup>1</sup>(μ-Ph<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>PPh<sub>2</sub>)M<sup>2</sup>(CO)<sub>4</sub>] (M<sup>1</sup>, M<sup>2</sup> = Cr, Mo, or W), 1009-14Bimetallic systems. Part 10. Synthesis of complexes of type [(RC≡C)Pt(μ-dppm)<sub>2</sub>Pt(C≡CR)] (dppm = Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>, R = Ph or *p*-tolyl) and their corresponding 'A frames' [(RC≡C)Pt(μ-dppm)<sub>2</sub>(μ-H)Pt(C≡CR)]Cl or [(RC≡C)Pt(μ-dppm)<sub>2</sub>(μ-X)Pt(C≡R)] with X = CS<sub>2</sub> or MeOOC≡CCOOMe, 1015-8Reduction-oxidation properties of organotransition-metal complexes. Part 21. Synthesis and X-ray structural characterisation of the redox-related pair of cyclohexadienyl complexes [Mn(CO)(dppe)(η<sup>5</sup>-C<sub>6</sub>H<sub>6</sub>Ph)] and [Mn(CO)(dppe)(η<sup>5</sup>-C<sub>6</sub>H<sub>6</sub>Ph)]<sub>2</sub>[PF<sub>6</sub>]<sub>2</sub>·0.5CH<sub>2</sub>Cl<sub>2</sub>, 1019-26The preparation and properties of some diphosphines R<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>PR<sub>2</sub> (R = alkyl or aryl) and of their rhenium(II) dinitrogen derivatives, 1131-6A mechanistic study on complexes of type *mer*-[Cr(CO)<sub>3</sub>(η<sup>2</sup>-L-L)(σ-L-L)] (where L-L = Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>, Ph<sub>2</sub>PNHPPPh<sub>2</sub>, or Ph<sub>2</sub>PNMePPh<sub>2</sub>) using spectroscopic and convolutive electrochemical techniques, 1213-22

Electron-transfer reactions in nitrogen fixation. Part 1. The electro-synthesis of dinitrogen, hydride, isocyanide, and carbonyl complexes of molybdenum: intermediates, mechanisms, and energetics, 1255-64

Synthesis and properties of the divalent 1,2-bis(dimethylphosphino)ethane (dmpe) complexes MCl<sub>2</sub>(dmpe)<sub>2</sub> and MMe<sub>2</sub>(dmpe)<sub>2</sub> (M = Ti, V, Cr, Mn, or Fe). X-Ray crystal structures of MCl<sub>2</sub>(dmpe)<sub>2</sub> (M = Ti, V, or Cr), MnBr<sub>2</sub>(dmpe)<sub>2</sub>, TiMe<sub>1.3</sub>Cl<sub>0.7</sub>(dmpe)<sub>2</sub>, and CrMe<sub>2</sub>(dmpe)<sub>2</sub>, 1339-48Gold(II) complexes of 1,2-ditertiary phosphino-*o*-carborane ligands: two-, three-, and four-co-ordination, 1387-90Bimetallic cyano-bridged cations: preparation and hydride reduction of [(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>Ru(μ-CN)ML<sub>2</sub>(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)]PF<sub>6</sub> [L<sub>2</sub>, L<sub>2</sub>' = (PPh<sub>3</sub>)<sub>2</sub>, Ph<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>PPh<sub>2</sub>; M = Ru or Fe]. Formation of [Ru(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)(PPh<sub>3</sub>)<sub>3</sub>] and X-ray crystal structure of [(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)(Ph<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>PPh<sub>2</sub>)Ru(μ-CN)Ru(PPh<sub>3</sub>)<sub>2</sub>(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)]PF<sub>6</sub>, 1479-86Synthetic and nuclear magnetic resonance studies on dialkyl- and diaryl-platinum complexes containing chelating, monodentate, or bridging Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub> ligands, 1501-6The syntheses and characterisation of, and the determination of <sup>1</sup>J(<sup>103</sup>Rh-<sup>103</sup>Rh) in [(η<sup>5</sup>-C<sub>5</sub>Me<sub>5</sub>)Rh<sub>2</sub>(μ-CH<sub>2</sub>)<sub>2</sub>{μ-CH<sub>2</sub>CR(CH<sub>2</sub>CR=CH<sub>2</sub>)CH<sub>2</sub>}] (R = H or Me) and [(η<sup>5</sup>-C<sub>5</sub>Me<sub>5</sub>)<sub>2</sub>Rh<sub>2</sub>(μ-CH<sub>2</sub>)<sub>2</sub>{μ-Ph<sub>2</sub>P(CH<sub>2</sub>)<sub>n</sub>PPh<sub>2</sub>}]<sup>2+</sup> (n = 1 or 2), 1555-60Synthesis of bis[μ-bis(diphenylphosphino)methane]-tri-μ-carbonyl-tricarbonyl-*triangulo*-trirhodium(1+) perchlorate, [Rh<sub>3</sub>(CO)<sub>3</sub>(μ-CO)<sub>3</sub>(μ-dppm)<sub>2</sub>][ClO<sub>4</sub>]. An unusual 46-electron cluster possessing the A-frame structure with a bridging Rh(CO)<sub>3</sub> fragment, 1577-84

Addition of proton and boron trifluoride at terminal and bridging cyano-ligands in dinuclear manganese compounds, 1609-12

Bimetallic systems. Part 11. Heterobimetallic and unsymmetrical diplatinum complexes from *cis*-[PtR<sub>2</sub>(dppm-P)<sub>2</sub>] (dppm = Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>; R = Me, 1-naphthyl, or C<sub>6</sub>H<sub>4</sub>Me-*o*): crystal structure of [(C<sub>6</sub>H<sub>4</sub>Me-*o*)<sub>2</sub>Pt(μ-dppm)<sub>2</sub>PtMe<sub>2</sub>], 1677-82Reaction between [Ru<sub>3</sub>(CO)<sub>12</sub>] and the tridentate phosphine ligand HC(PPh<sub>2</sub>)<sub>3</sub>; X-ray crystal structures of complexes [Ru<sub>3</sub>(CO)<sub>9</sub>{Ph<sub>2</sub>PCHP(Ph)C<sub>6</sub>H<sub>4</sub>PPh<sub>2</sub>}], [Ru<sub>2</sub>H(CO)<sub>4</sub>(Ph<sub>2</sub>PCHPPh<sub>2</sub>){PhPC<sub>6</sub>H<sub>4</sub>C(O)}], and [Ru<sub>2</sub>(CO)<sub>4</sub>Cl(PPh<sub>2</sub>)(dppm)], 1835-42Bimetallic systems. Part 12. Mixed rhodium(1)-platinum(II) acetylide complexes containing bridging Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>. Crystal structures of [(MeC≡C)Pt(μ-dppm)<sub>2</sub>(σ,η-C≡CMe)Rh(CO)]PF<sub>6</sub> and of [ClPt(μ-dppm)<sub>2</sub>(σ,η-C≡CMe)Rh(CO)]PF<sub>6</sub>, 2121-30Bimetallic systems. Part 13. Platinum-manganese carbonyl complexes containing bridging Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>(dppm) ligands: crystal structure of [(OC)<sub>3</sub>Mn(μ-dppm)<sub>2</sub>PtH(Br)]BF<sub>4</sub>, 2131-8Some alkylplatinum(I) complexes and studies of the photochemical and thermal decomposition of the [Pt<sub>2</sub>Et(μ-Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>)<sub>2</sub>(Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>-P)]<sup>+</sup> cation, 2421-6**DIPHOSPHINE OXIDE**Investigation into diphosphine oxides as ligands in diorganotin(IV) adducts. Part 3. Synthesis and crystal structure of two adducts of dinitratodiphenyltin(IV) with *cis*- and *trans*-1,2-bis(diphenylphosphoryl)ethylene, 487-92**DIPHOSPHONATE**Synthesis, spectroscopy, and structure of the mixed-valence complexes [Pt<sup>II</sup>(en)<sub>2</sub>][Pt<sup>IV</sup>(en)<sub>2</sub>X<sub>2</sub>][Pt<sup>III</sup>(H<sub>2</sub>P<sub>2</sub>O<sub>5</sub>)<sub>4</sub>X<sub>2</sub>] (en = 1,2-diaminoethane, X = Br or I), 579-86**DISELENACYCLOPENTANE**Dynamic nuclear magnetic resonance study of Group 6 metal pentacarbonyl complexes. Pyramidal inversion and 1,2-metal shifts in the complexes [M(CO)<sub>5</sub>(Me<sub>2</sub>CCH<sub>2</sub>EECH<sub>2</sub>)] (M = Cr, Mo, or W; E = S or Se), 1569-76**DISELENOETHER**Synthesis, properties, and multinuclear magnetic resonance (<sup>1</sup>H, <sup>77</sup>Se, and <sup>195</sup>Pt) studies on diselenoether complexes of palladium, platinum, and rhodium, 1265-70**DISMUTATION**Dismutation of superoxide ion in an aprotic solvent by 5,10,15,20-tetra-*p*-tolylporphyrinatocobalt(II), 1513-6**DI-T-BUTYLPHOSPHAZENE**A photoelectron spectroscopic study of di-*t*-butylphosphazene, 879-84**DITHIACYCLOPENTANE**Dynamic nuclear magnetic resonance study of Group 6 metal pentacarbonyl complexes. Pyramidal inversion and 1,2-metal shifts in the complexes [M(CO)<sub>5</sub>(Me<sub>2</sub>CCH<sub>2</sub>EECH<sub>2</sub>)] (M = Cr, Mo, or W; E = S or Se), 1569-76**DITHIADIZOLIUM**

Preparation of 1,3,2-dithiazolium hexafluoroarsenate(V), preparation and crystal structures of 5-methyl-1,3,2,4-dithiadiazolium and 4-methyl-1,3,2-dithiazolium hexafluoroarsenate(V) and the reduction of these salts to stable free radicals, 1405-16

**DITHIAZOLIUM**

Preparation of 1,3,2-dithiazolium hexafluoroarsenate(V), preparation and crystal structures of 5-methyl-1,3,2,4-dithiadiazolium and 4-methyl-1,3,2-dithiazolium hexafluoroarsenate(V) and the reduction of these salts to stable free radicals, 1405-16

**DITHIOCARBAMATE**

Synthesis and characterization of several mononuclear cobalt(IV) dithiocarbamates,  $[\text{Co}(\text{S}_2\text{CNR}'')_3]\text{ClO}_4$  [ $\text{R} = \text{R}' = \text{Me}$ , Et, or  $\text{CH}_2\text{Ph}$ ;  $\text{R} = \text{Me}$ ,  $\text{R}' = \text{Ph}$ ;  $\text{R}, \text{R}' = -(\text{CH}_2)_4-$ ], 597–600

The concentration and selective extraction of copper(II), rhodium(III), and iridium(III) using a copolymer functionalised with dithiocarbamate groups. Spectroscopic evidence for the nature of the binding sites, 1655–60

**DITHIOCARBENE**

Fragmentation of co-ordinated carbon disulphide and dithiocarbene ligands by nucleophilic attack at carbon: the crystal structure of  $[(\text{Ph}_3\text{P})\text{Pt}(\mu\text{-SMe})(\mu\text{-CSMe})\text{Pt}(\text{PPh}_3)]\cdot\text{Me}_2\text{CO}$ , 2595–602

**DITHIOLATE**

Molecular structure and solid-state properties of the two-dimensional conducting mixed-valence complex  $[\text{NBu}_4]_{0.29}[\text{Ni}(\text{dmit})_2]$  and the neutral  $[\text{Ni}(\text{dmit})_2]$  ( $\text{H}_2\text{dmit} = 4,5\text{-dimercapto-1,3-dithiole-2-thione}$ ); members of an electron-transfer series, 783–94

Copper(II) salts of metal dithiolates, 1731–2

**DITHIOMALONAMIDE**

*N,N'*-Disubstituted dithiomalonamide complexes of antimony(III).

Crystal and molecular structure of  $[\text{SbCl}_3\{\text{C}_2\text{H}_4\text{NHC}(\text{S})\text{CH}_2\text{C}(\text{S})\text{NHC}_2\text{H}_5\}]$  with lone-pair occupation of an antimony co-ordination site, 1073–6

**ELECTROCHEMISTRY**

Reactions of sulphoxide-thioether bidentate ligands with platinum(II). Determination of the mode of binding by cyclic voltammetry, 209–12

Influence of secondary ligands on the stability of metal-xanthosine complexes in solution, 239–42

Electrochemistry of clusters. Part 4. Redox behaviour of tetrametallic clusters  $[\text{M}^1_2\text{M}^2_2(\eta^5\text{-C}_5\text{H}_5)_2(\mu_3\text{-CO})_2(\mu\text{-CO})_4(\text{PR}_3)_2]$  ( $\text{M}^1 = \text{Pt}$  or  $\text{Pd}$ ;  $\text{M}^2 = \text{Cr}$ ,  $\text{Mo}$ , or  $\text{W}$ ;  $\text{R} = \text{Me}$ , Et,  $\text{Bu}^n$ , or  $\text{Ph}$ ), 711–6

Electron-transfer reactions from *cis*-dialkylbis(2,2'-bipyridyl)cobalt(III) complexes to organic oxidants, 899–904

Electrochemically induced ligand substitutions on  $[\text{OsCl}_3(\text{PMe}_2\text{Ph})_3]$ : rational pathways to osmium(II) complexes, 947–52

Reduction-oxidation properties of organotransition-metal complexes. Part 21. Synthesis and X-ray structural characterisation of the redox-related pair of cyclohexadienyl complexes  $[\text{Mn}(\text{CO})(\text{dppe})(\eta^5\text{-C}_6\text{H}_6\text{Ph})]$  and  $[\text{Mn}(\text{CO})(\text{dppe})(\eta^5\text{-C}_6\text{H}_6\text{Ph})][\text{PF}_6]_2\cdot 0.5\text{CH}_2\text{Cl}_2$ , 1019–26

Reduction-oxidation properties of organotransition-metal complexes. Part 22. Stereospecific oxidative cyclopropane ring opening and reductive cyclobutane ring formation in polycyclic hydrocarbon complexes of iron; X-ray crystal structures of  $[\text{Fe}_2(\text{CO})_6(\eta^2\text{-}\eta^5\text{-C}_{16}\text{H}_{16})][\text{PF}_6]_2\cdot\text{CH}_3\text{NO}_2$  and  $[\text{Fe}_2(\text{CO})_6(\eta^2\text{-}\eta^4\text{-C}_{16}\text{H}_{16})]$ , 1027–36

**SUPERQUAD**: an improved general program for computation of formation constants from potentiometric data, 1195–200

A mechanistic study on complexes of type *mer*- $[\text{Cr}(\text{CO})_3(\eta^2\text{-L-L})(\sigma\text{-L-L})]$  (where  $\text{L-L} = \text{Ph}_2\text{PCH}_2\text{PPh}_2$ ,  $\text{Ph}_2\text{PNHPPPh}_2$ , or  $\text{Ph}_2\text{PNMePPh}_2$ ) using spectroscopic and convolutive electrochemical techniques, 1213–22

Electrochemical and chemical properties of di-iodonitrosyl[tris(3,5-dimethylpyrazolyl)borato]molybdenum,

$[\text{Mo}\{\text{HB}(\text{Me}_2\text{pz})_3\}(\text{NO})_2]$ , and related complexes, 1249–54

Potentiometric study of the complex-formation equilibria of manganese(II), cobalt(II), nickel(II), copper(II), and zinc(II) with ethylenediamine-*N*-acetic acid, 1605–8

Studies of 2,5,6,10,8,10-tri- $\mu$ -hydro-nonahydro-*nido*-nonaborate(1<sup>-</sup>),  $[\text{B}_9\text{H}_{12}]^-$ : preparation, crystal and molecular structure, nuclear magnetic resonance spectra, electrochemistry, and reactions, 1645–54

Axially asymmetric metal alkyls. Part 3. Chemical, electrochemical, and structural studies of group 5A  $d^{0,1,2}$  metallocenes  $[\text{M}\{\text{2-CH}_2\text{C}_6\text{H}_4\}_2(\eta\text{-C}_5\text{H}_5)_2]^z$  ( $\text{M} = \text{Nb}$  or  $\text{Ta}$ ;  $z = 1-, 0$ , or  $1+$ ); synthesis of  $[\text{Nb}\{\text{2-CH}_2\text{C}_6\text{H}_4\}_2\text{Me-2'}\text{X}(\eta\text{-C}_5\text{H}_5)_2]$  ( $\text{X} = \text{Cl}$  or  $\text{CO}$ ) and  $[\{\eta\text{-C}_5\text{H}_5\}_2\text{ClV}\}_2\{\text{2-CH}_2\text{C}_6\text{H}_4\}_2]$ , and electrochemistry of  $[\text{M}(\text{CH}_2\text{Ph})_2\text{-}n\text{Cl}_n(\eta\text{-C}_5\text{H}_5)_2]$  ( $n = 0$ ,  $\text{M} = \text{Nb}$ , or  $\text{Ta}$ ;  $n = 1$ ,  $\text{M} = \text{V}$ ), 1747–60

The hydrolysis of metal ions. Part 8. Aluminium(III), 1967–70

Crystal structure and spectroscopic and redox properties of the iron-sulphur cluster compound  $[\text{NEt}_4]_2[\text{Fe}_4\text{S}_4(\text{SC}_6\text{H}_4\text{NH}_2)_4]$ , 2161–6

Copper(II) complexes of *N,N'*-bis(2-carbamoyl ethyl)ethylenediamine in methanol-water, 2217–20

Linkage isomerism in penta-ammineruthenium(II), (III) complexes of benzotriazole, 2469–72

Selective conversion of CO into methanol at ordinary temperature. Part 4. Activation by iron(II), iron(III), and chromium(III) complexes, 2499–504

Electrochemical studies in  $\text{HNO}_3\text{-N}_2\text{O}_4$  mixtures: corrosion of stainless steel in  $\text{HNO}_3\text{-N}_2\text{O}_4$  mixtures and the effect of inhibitors, 2551–4

Equilibrium and structural studies of silicon(IV) and aluminium(III) in aqueous solution. Part 13. A potentiometric and  $^{27}\text{Al}$  nuclear magnetic resonance study of speciation and equilibria in the aluminium(III)-oxalic acid-hydroxide system, 2665–70

**ELECTRON DIFFRACTION**

Determination of the molecular structures and conformations of methylbis(methylsilyl)amine and bis(dimethylsilyl)methylamine in the gas phase by electron diffraction, 191–8

Determination of the molecular structure of difluorophosphine sulphide by the combined analysis of data from electron diffraction, microwave spectroscopy, and liquid crystal nuclear magnetic resonance spectroscopy, 755–60

The molecular structure of gaseous dimethylamidogallane: characterization of the dimer  $[\text{Me}_2\text{NGaH}_2]_2$  by electron diffraction and vibrational spectroscopy, 807–14

Determination of the molecular structures of tri(*t*-butyl)phosphine oxide and tri(*t*-butyl)phosphine imide in the gas phase by electron diffraction, 827–30

The molecular structure of gaseous bis(trifluoromethyl)selenium difluoride as determined by electron diffraction, 941–6

Molecular structure of gaseous copper(I) acetate as determined by electron diffraction, 2555–60

**ELECTRONIC**

Application of photoelectron spectroscopy to molecular properties. Part 19. Electronic structure of tris( $\alpha$ -di-imino) complexes of ruthenium(0), 43–50

Glycine complexation with uranyl ion: absorptiometric, luminescence, and X-ray structural studies of tetrakis-(glycine)dioxouranium(VI) nitrate, 517–22

Characterisation of chromium(VI) oxide tetrafluoride,  $\text{CrOF}_4$ , and caesium pentafluoro-oxochromate(VI)  $\text{Cs}[\text{CrOF}_5]$ , 529–34

Synthesis, spectroscopy, and structure of the mixed-valence complexes  $[\text{Pt}^{\text{II}}(\text{en})_2][\text{Pt}^{\text{IV}}(\text{en})_2][\text{Pt}^{\text{III}}_2(\text{H}_3\text{P}_2\text{O}_5)_4\text{X}_2]$  ( $\text{en} = 1,2\text{-diaminoethane}$ ,  $\text{X} = \text{Br}$  or  $\text{I}$ ), 579–86

Absorption and emission in tris(2,2'-bipyridyl)ruthenium(II); effects of excited-state asymmetry, 1081–6

Spectroscopic studies on the higher binary fluorides of chromium:  $\text{CrF}_4$ ,  $\text{CrF}_5$ , and  $\text{CrF}_6$ , both in the solid state and isolated in inert gas matrices, 1443–50

**ELECTRON TRANSFER**

Photochemistry of manganese porphyrins. Part 9. Redox reactions photosensitised by diamagnetic metalloporphyrins, 503–10

Kinetics and mechanism of single electron oxidations of the trivalent uranium ion,  $\text{U}^{3+}(\text{aq})$ , by free radicals in aqueous solutions, 641–4

Electron-transfer reactions from *cis*-dialkylbis(2,2'-bipyridyl)cobalt(III) complexes to organic oxidants, 899–904

Crystal structures and magnetic properties of binuclear five-coordinate copper(II) complexes with a phenolate bridge and their catalytic functions in multielectron redox reactions, 1945–52

Preparation and characterisation of 2,2'-bipyridine-4,4'-disulphonic and -5-sulphonic acids and their ruthenium(II) complexes. Excited-state properties and excited-state electron-transfer reactions of ruthenium(II) complexes containing 2,2'-bipyridine-4,4'-disulphonic acid or 2,2'-bipyridine-4,4'-dicarboxylic acid, 2247–62

A kinetic study of the complexation of cysteine and related compounds with aqueous vanadium(II) and vanadium(III) at approximately neutral pH; the mediating role of sulphur compounds in electron transfer, 2461–8

Kinetics and mechanism of electron-transfer reactions of bismuth(V) in aqueous acidic perchlorate-fluoride media. Part 1. Oxidation of hypophosphorous acid, 2571–4

**ELECTROSYNTHESIS**

Electron-transfer reactions in nitrogen fixation. Part 1. The electrosynthesis of dinitrogen, hydride, isocyanide, and carbonyl complexes of molybdenum: intermediates, mechanisms, and energetics, 1255–64

**ELIMINATION**

The chemistry of vitamin  $\text{B}_{12}$ . Part 25. Mechanism of the  $\beta$ -elimination of olefins from alkylcorrinoids; evidence for an initial

**ELIMINATION** (contd)

homolytic fission of the Co-C bond, 1613-8

**ENANTIOSELECTIVITY**

Enantioselectivity of nickel(II) and copper(II) complexes of Schiff bases derived from amino acids and (S)-*o*-[(N-benzylpropyl)amino]acetophenone or (S)-*o*-[(N-benzylpropyl)amino]benzaldehyde. Crystal and molecular structures of [Ni{(S)-bap-(S)-Val}] and [Cu{(S)-bap-(S)-Val}], 17-26

**ENZYME**

Studies of phosphazenes. Part 25. Synthesis, nuclear magnetic resonance spectroscopy, and mode of formation of (aziridino)(triphenylphosphazeny)cyclotriphosphazenes. X-ray crystal structure and enzyme-inhibiting activity of  $N_3P_3(NPPH_3)(NC_2H_4)_5$ , 1881-90

**EQUILIBRIUM**

Electrostatic solvent effect on the formation of the mixed-chelate complex (acetylacetonato)(diethylthiocarbamato)-copper(II), 987-90

Equilibrium and kinetic study of pyridine binding to phthalocyaninatoiron(II) in dimethyl sulphoxide, 1107-12

Equilibrium and kinetic study of the reaction between phthalocyaninatoiron(II) and carbon monoxide in dimethyl sulphoxide in the presence of pyridine. Evidence for the formation of a transient, 1113-8

Equilibria between mono- and bi-nuclear complexes in  $Cu(O_2CMe)_2$ -pyridine derivative-diluent systems. The influence of the amine ligand basicity, 1849-52

The preparation of trichloro(phenyl 2-pyridylmethyl sulphoxide)gold(III) and the kinetics and equilibria of its formation and subsequent reactions, 2091-4

Copper(II) complexes of *N,N'*-bis(2-carbamoyl ethyl)ethylenediamine in methanol-water, 2217-20

Influence of decreasing solvent polarity (dioxane-water mixtures) on the stability and structure of binary and ternary complexes of adenosine 5'-triphosphate and uridine 5'-triphosphate, 2291-304

Equilibrium and structural studies of silicon(IV) and aluminium(III) in aqueous solution. Part 13. A potentiometric and  $^{27}Al$  nuclear magnetic resonance study of speciation and equilibria in the aluminium(III)-oxalic acid-hydroxide system, 2665-70

**E.S.R.**

Electron spin resonance spectra of manganese(II) ions in the double-stranded chain polymers  $CdLX_2$  (L = pyridine or methylpyridine; X = Cl or Br), 75-80

Comparison between the bis(2-thiopyridine *N*-oxide) derivatives of  $Cu^{II}$  and  $Ni^{II}$ : an electron spin resonance study, 379-82

Tin-molybdenum oxides. A study by X-ray diffraction, Mössbauer spectroscopy, and electron spin resonance, 451-4

Synthesis and physico-chemical properties of cationic derivatives of phthalocyaninatocopper(II), 651-8

A new electron spin resonance spectrum for an exchange- and dipole-dipole coupled superoxocobalamin... free-radical pair occurring in adenosylcobalamin-containing systems, 891-4

Electron spin resonance studies of iron(III) complexes of ethylenediaminetetra-acetate and *N*-(2-hydroxyethyl)ethylenediamine-*NN'*-triacetate in co-ordinating solvents, 1077-80

Electron spin resonance parameters for some copper(II)-bis(amino acid) complexes, 1717-8

Photochemical studies of the alkylammonium molybdates. Part 7. Octahedral sites for multi-electron reduction of  $[Mo_8O_{26}(MoO_4)_2]^{8-}$ , 2585-90

**ETHANE**

Reaction of transition-metal carbonylate anions and 1,1,1-tris(halogenomethyl)ethane. X-Ray crystal structures of tricarbonyl( $\eta^5$ -cyclopentadienyl)(1-methylcyclopropylmethyl)tungsten(II), and tetraethylammonium enecarbonyliododirhenate(O), 931-40

**ETHANOATE**

Metal-phenoxylalkanoic acid interactions. Part 13. Copper(II)-(2-chlorophenoxy)ethanoic acid complexes. Crystal and molecular structures of *catena*-tetra- $\mu$ -[(2-chlorophenoxy)ethanoato-*O,O'*]-dicopper(II), *catena*-(2-aminopyrimidine-*N,N'*)-tetra- $\mu$ -[(2-chlorophenoxy)ethanoato-*O,O'*]-dicopper(II), and 1,2,2,2-penta-aqua-tetra- $\mu$ -[(2-chlorophenoxy)ethanoato-*O,O'*]-copper(II)calcium(II), 243-52

**ETHANOL**

Dinuclear mono- $\mu$ -chloro-pyridyldiaza rhodium(I) complexes derived from pyridyldi-imines *via* hydrogen transfer from ethanol,

1053-6

**ETHANOLATE**

Crystal and molecular structure and magnetic properties of linear trimeric copper(II) complexes with predominant ferromagnetic exchange interaction, 2609-14

**ETHENYL**

Metallation of 2-ethenylpyridine at triosmium clusters: X-ray crystal structures of the open trinuclear clusters

$[Os_3H(CO)_9L(NC_5H_4CH=CH)]$  (L = CO or  $PMe_2Ph$ ), 85-90

**ETHYL**

Photochemistry of dicarbonyl( $\eta^5$ -cyclopentadienyl)-methyl- and -ethyl-iron and -ruthenium complexes in solutions at  $-30^\circ C$  and in frozen gas matrices at 12 K, 1365-74

**ETHYLENEDIAMINE**

Synthesis, spectroscopy, and structure of the mixed-valence complexes  $[Pt^{II}(en)_2][Pt^{IV}(en)_2X_2]$   $[Pt^{III}_2(H_2P_2O_5)_4X_2]$  (en = 1,2-diaminoethane, X = Br or I), 579-86

Synthesis, characterization and acid hydrolysis of [*N,N*-bis(2-aminoethyl)-1,2-ethanediamine]bis(solvent)cobalt(III) complexes, 1923-8

**ETHYLENEDIAMINEACETIC ACID**

Potentiometric study of the complex-formation equilibria of manganese(II), cobalt(II), nickel(II), copper(II), and zinc(II) with ethylenediamine-*N*-acetic acid, 1605-8

**ETHYLENEDIAMINEDIACETATEDIPROPIONATE**

Correlation between structure and circular dichroism. Structure and absolute configuration of the (-) isomer of lithium (ethylenediamine-*N,N'*-diacetato-*N,N'*-di-3-propionato)rhodate(III) pentahydrate, 861-4

**ETHYLENEDIAMINETETRA-ACETATE**

Kinetic and structural investigations of  $[Fe^{III}(edta)]^-$   $[edta = \text{ethylenediaminetetra-acetate}(4-)]$  catalysed decomposition of hydrogen peroxide, 493-502

Electron spin resonance studies of iron(III) complexes of ethylenediaminetetra-acetate and *N*-(2-hydroxyethyl)ethylenediamine-*NN'*-triacetate in co-ordinating solvents, 1077-80

**ETHYLIDYNE**

The  $[Fe_3(\mu_3-CR)(CO)_{10}]^-$  cluster anions as building blocks for the synthesis of mixed-metal clusters. Part 1. Synthesis of mixed clusters  $[MFe_3(\mu_3-CMe)(CO)_{10}(PPh_3)]$  (M = Cu or Au) and crystal structure of  $[CuFe_3(\mu_3-CMe)(CO)_{10}(PPh_3)]$ , 2521-4

**ETHYNYL**

Cluster chemistry. Part 32. Synthesis and X-ray crystal structure of  $[Ru_4(\mu_5-\eta^2-C_2PPh_2-P)(\mu-PPh_2)(CO)_{13}]$ , a complex containing an alkynyl ligand in extended interaction with an open  $Ru_5$  cluster, 1229-34

**EXCHANGE**

Co-ordinative interactions in chelated complexes of silicon. Part 7. Dynamic nuclear magnetic resonance studies of fluorine exchange at five-co-ordinated silicon, 5-8

Intercalation of alkylamines into tin(IV) bis(hydrogenphosphate) monohydrate, 213-4

Two-dimensional nuclear magnetic resonance for the analysis of the carbon-13 spectra of carbonyl groups in metallocarbonyls, 225-8

Proton exchange and base hydrolysis of *syn-anti-cis*-dichloro(1,4,7,10-tetra-azacyclododecane)cobalt(III) cations, 475-8

Thermodynamic treatment of exchange of  $H^+$  and  $K^+$  in  $\alpha$ -titanium phosphate, 1865-8

Oxygen exchange and protonation of polyanions: a multinuclear magnetic resonance study of tetradeccavanadophosphate(9-) and decavanadate(6-), 1953-8

**EXTENDED HÜCKEL**

A theoretical study of three-centre M-H-C interactions, 1637-44

**EXTRACTION**

The extraction and transport of metal ions by 6,6'-diamino-2,2'-bipyridine derivatives, 373-8

The concentration and selective extraction of copper(II), rhodium(III), and iridium(III) using a copolymer functionalised with dithiocarbamate groups. Spectroscopic evidence for the nature of the binding sites, 1655-60

**FERRITE**

Formation of oxidized molybdenum-bearing ferrites,  $Fe_{2.95-x}Mo_xO_4$  ( $x = 0.03-0.30$ ) in aqueous suspensions by air oxidation and valence state of molybdenum ions in the lattice, 1713-6

**FERROCENE**

Synthesis and structural studies of some 1,1'-dichloroferrocene

**FERROCENE** (contd)

derivatives of platinum(II). Crystal and molecular structure of 2,2- $\mu$ -[(1-2,5-6- $\eta$ -*cis,cis*-cyclo-octa-1,5-diene)platinio]-bis(1,1'-dichloroferrocene), 1527-30

**FLUORIDE**

Preparation and characterisation of adducts of bismuth pentafluoride and antimony pentafluoride by vibrational spectroscopy, X-ray powder diffraction, and single-crystal X-ray crystallography, 9-16  
Partially oxidized group 3B fluorometallophthalocyanines, 269-74  
Synthesis and structural assessment of ammonium and caesium difluorodioxoperoxouranates(vi),  $A_2[UO_2(O_2)F_2]$  ( $A = NH_4$  or Cs), and alkali-metal difluorodioxoperoxouranate(vi) monohydrates,  $A_2[UO_2(O_2)F_2] \cdot H_2O$  ( $A = K$  or Rb), 409-12  
Characterisation of chromium(vi) oxide tetrafluoride,  $CrOF_4$ , and caesium pentafluoro-oxochromate(vi)  $Cs[CrOF_5]$ , 529-34  
The molecular structure of gaseous bis(trifluoromethyl)selenium difluoride as determined by electron diffraction, 941-6  
A tin-119 Mössbauer study of tin(II) fluoride, 1275-6  
Spectroscopic studies on the higher binary fluorides of chromium:  $CrF_4$ ,  $CrF_5$ , and  $CrF_6$ , both in the solid state and isolated in inert gas matrices, 1443-50  
The preparation and crystal structure of  $(\beta)6SbF_3 \cdot 5SbF_5$ , 1623-32

**FLUORINE-19**

Co-ordinative interactions in chelated complexes of silicon. Part 7. Dynamic nuclear magnetic resonance studies of fluorine exchange at five-co-ordinated silicon, 5-8

**FLUOROPHOSPHINE**

Fluorophosphine complexes of rhodium(I) and iridium(I): towards the design of systems with extended metal-metal interactions. The crystal structure of  $\{[IrCl(PF_3)_2]_2\}$ , 1295-302

**FLUOROSULPHURIC ACID**

Methyltin hydrides in fluorosulphuric acid, 2671-6

**FLUXIONALITY**

Synthesis of  $[Fe(\eta^4-C_8H_8)(CO)_2L]$  [ $L = MeNC$ ,  $Pr^iNC$ ,  $Bu^iNC$ ,  $PhNC$ , 2,6- $Me_2C_6H_3NC$ , or  $P(OMe)_3$ ] and proof of the applicability of the Woodward-Hoffmann rules to the fluxionality of  $[Fe(\eta^4-C_8H_8)(CO)_2(CNPr^i)]$ , 693-8

Mono- and di-nuclear rhodium and palladium complexes of macrocyclic ligands containing the 2,6-di(thiomethyl)pyridine sub-unit, 1517-22

Rhenium nitrosyl complexes with simple and with sterically demanding aromatic thiolate ligands: X-ray crystal structures of  $[PPh_4][Re_2(SC_6H_4Me-4)_7(NO)_2] \cdot CH_2Cl_2$  and  $[Re(SC_6H_3Pr^i-2,6)_4(NO)]$ , 1533-42

Pyramidal inversions and 1,2-metal shifts in pentacarbonyl-chromium, -molybdenum, and -tungsten derivatives of dialkyl disulphides and dialkyl diselenides. A nuclear magnetic resonance investigation, 1561-8

Dynamic nuclear magnetic resonance study of Group 6 metal pentacarbonyl complexes. Pyramidal inversion and 1,2-metal

shifts in the complexes  $[M(CO)_5(Me_2\overline{C}CH_2EE\overline{C}H_2)]$  ( $M = Cr$ ,  $Mo$ , or  $W$ ;  $E = S$  or  $Se$ ), 1569-76

Bis(triphenylphosphine)copper(I) derivatives of substituted *arachno* nine-vertex borane anions,  $Cu(PPh_3)_2(B_9H_3X)$  ( $X = H$ ,  $NCS$ ,  $NCS_e$ ,  $NCBPh_3$ ,  $NCBH_3$ , or  $NCBH_2NCBH_3$ ), 1903-8

**FORMYL**

The preparation and hydride reduction of dicationic dicarbonyl complexes of osmium(II); the crystal and molecular structure of *trans*-bis[1,2-bis(diphenylphosphino)ethane-*PP'*]carbonylformylosmium(II) hexafluoroantimonate-dichloromethane (1/1), 387-94

Reactions of hydride reagents with alkylmolybdenum carbonyl complexes. Reaction of  $LiBHET_3$  with  $[MoMe(CO)_3-(\eta-C_5H_5)]$ , formation of an anionic acetaldehyde complex, and a stoichiometric cycle for the synthesis of acetaldehyde, 1815-20

**FRAGMENTATION**

Complexes of the platinum metals. Part 30. Fragmentation reactions of rhodium and iridium trichloro- and tribromoacetates, 2113-20

**FUEL CELL**

Hydrogen generation by hydrolysis of sodium tetrahydroborate: effects of acids and transition metals and their salts, 307-14

**FULVALENE**

Stereochemical consequences of the two-electron oxidation of a dirhodium fulvalene complex: the X-ray crystal structures of *trans*- $[Rh_2(CO)_2(PPh_3)_2(\eta^5-\eta^5-C_{10}H_8)]$  and *cis*- $[Rh_2(CO)_2(PPh_3)_2(\eta^5-\eta^5-C_{10}H_8)]PF_6$ , 2283-90

**FULVENE**

Synthesis, structure, and bonding of fulvene complexes of titanium, molybdenum, and tungsten, 2037-50

**FURYL**

The chemistry of heteroarylphosphorus compounds. Part 16. Unusual substituent effects on selenium-77 nuclear magnetic resonance chemical shifts of heteroaryl- and aryl-phosphine selenides. X-Ray crystal structure of tri(2-furyl)phosphine selenide, 2505-8

**GALLIUM**

Partially oxidized group 3B fluorometallophthalocyanines, 269-74  
The molecular structure of gaseous dimethylamidogallane: characterization of the dimer  $[Me_2NGaH_2]_2$  by electron diffraction and vibrational spectroscopy, 807-14  
Kinetics and mechanisms of complex formation of gallium(III) and indium(III). The reactions with 4-(2-pyridylazo)resorcinol in water and other mixed solvents, 2615-22

**GERMANIUM**

Subvalent group 4B metal alkyls and amides. Part 7. Transition-metal chemistry of metal(II) bis(trimethylsilyl)amides  $M'(NR_2)_2$  ( $R = SiMe_3$ ;  $M' = Ge$ ,  $Sn$ , or  $Pb$ ), 51-8

**GLASS**

Magnetic circular dichroism spectra of tris-chelate complexes of 2,2'-bipyridyl and 1,10-phenanthroline with iron(II), ruthenium(II), and osmium(II) at 4.2 K, 1781-8

**GLUTATHIONE**

Synthesis and characterization of some chromium(III) complexes with glutathione, 2085-90

**GLYCINE**

Glycine complexation with uranyl ion: absorptiometric, luminescence, and X-ray structural studies of tetrakis-(glycine)dioxouranium(vi) nitrate, 517-22

**GOLD**

Bimetallic systems. Part 8. Heterobimetallic di-isonitrile or isonitrile-carbonyl complexes of rhodium or iridium bridged to silver or gold by  $Ph_2PCH_2PPh_2$ , 511-6

Displacement of pyridine-2-methanol from dichloro(pyridine-2-methanolato)gold(III) in acidic solution. Ring opening at oxygen, 731-6

Short hydrogen bonds: diadducts of substituted pyridine *N*-oxides: synthesis, spectroscopic studies, and X-ray structure, 749-54

Solvent extraction of gold and platinum-group metals using 2-nonylpyridine 1-oxide, and the crystal and molecular structure of bis(2-nonylpyridine 1-oxide)hydrogen(I+) tetrachloroaurate(III), 771-6

Co-ordination chemistry of pyridyl and *N*-methylimidazolyl ketones. Synthetic and X-ray structural studies of copper(II), nickel(II), and dimethylgold(III) complexes, 981-6

Synthesis of gold(I) and -(III) complexes with carbonyl-stabilized phosphorus ylides. Crystal structure of  $\{[Au(PPh_3)_2(\mu-C(PPh_3)CO_2Et)]ClO_4\}$ , 1163-8

Co-ordination chemistry of dimethylgold(III). Synthesis, structural studies, and fluxional behaviour of complexes with polydentate ligands, 1183-90

Gold(I) complexes of 1,2-ditertiary phosphino-*o*-carborane ligands: two-, three-, and four-co-ordination, 1387-90

Studies of gold cluster compounds using high-resolution  $^{31}P$  solid-state nuclear magnetic resonance spectroscopy, 1811-4

The preparation of trichloro(phenyl 2-pyridylmethyl sulphoxide)gold(III) and the kinetics and equilibria of its formation and subsequent reactions, 2091-4

Synthesis of trinuclear gold(I) and gold(III) complexes containing the tridentate bis(diphenylphosphino)methane ligand. Crystal structure of  $[Cl(C_6F_5)_2Au\{Ph_2PCH(AuNC_5H_3)PPh_2\}AuCl]$ , 2417-20

The  $[Fe_3(\mu_3-CR)(CO)_{10}]^-$  cluster anions as building blocks for the synthesis of mixed-metal clusters. Part 1. Synthesis of mixed clusters  $[MFe_3(\mu_3-CMe)(CO)_{10}(PPh_3)]$  ( $M = Cu$  or  $Au$ ) and crystal structure of  $[CuFe_3(\mu_3-CMe)(CO)_{10}(PPh_3)]$ , 2521-4

Novel ring compounds of bidentate phosphines with gold(I). Two-, three-, and four-co-ordination, 2655-60

**HAEM**

Rate parameters for oxygen and carbon monoxide binding to a liposome-embedded heme under physiological conditions, 65-8

**HALIDE**

Electron spin resonance spectra of manganese(II) ions in the double-stranded chain polymers  $CdLX_2$  ( $L =$  pyridine or methylpyridine;  $X = Cl$  or  $Br$ ), 75-80

Niobium(IV) sulphidohalides: preparation of  $Nb_2X_4S_3$  and

**HALIDE (contd)**

- $Nb_2X_4S_nL[X = Br \text{ or } Cl; n = 4, L = NCMe, SMe_2, \text{ or tetrahydrothiophene (tht)}; n = 2, L = PhSCH_2CH_2SPh]$ . Crystal and molecular structure of  $Nb_2Cl_4S_2 \cdot 4tht$ , 417–22
- The synthesis of  $NR_4[(Ta_6Cl_{12})(H_2O)_6]X_4$  ( $R = Me \text{ or } Et, X = Cl \text{ or } Br$ ) by the spontaneous reduction of  $[Ta_6Cl_{12}]^{4+}$  to  $[Ta_6Cl_{12}]^{3+}$  in acidic media: *X*-ray structure analysis of  $NMe_4[(Ta_6Cl_{12})(H_2O)_6]Br_4$ , 455–8
- Palladium(II,IV) mixed-valence complexes of 1,2-diaminoethane, 1,3-diaminopropane, and diethylenetriamine: syntheses, electronic, infrared, Raman, and resonance Raman spectra and *X*-ray studies, 815–20
- Lewis-base adducts of group 1B metal(I) compounds. Part 16. Synthesis, structure, and solid-state phosphorus-31 nuclear magnetic resonance spectra of some novel  $[Cu_4X_4L_4]$  ( $X = \text{halogen}, L = N, P \text{ base}$ ) 'cubane' clusters, 831–8
- Thermochemical data for adducts of zinc, cadmium, and mercury halides with hexamethylphosphoramide, 1103–6
- Mössbauer study of the *cis-trans* isomers of tin(IV) complexes. Some considerations about the sign of the electric-field gradient, 1281–4
- Synthesis and properties of the divalent 1,2-bis(dimethylphosphino)ethane (dmpe) complexes  $MCl_2(dmpe)_2$  and  $MMe_2(dmpe)_2$  ( $M = Ti, V, Cr, Mn, \text{ or } Fe$ ). *X*-Ray crystal structures of  $MCl_2(dmpe)_2$  ( $M = Ti, V, \text{ or } Cr$ ),  $MnBr_2(dmpe)_2$ ,  $TiMe_1.3Cl_{0.7}(dmpe)_2$ , and  $CrMe_2(dmpe)_2$ , 1339–48
- The synthesis of  $NR_4[(Ta_6Cl_{12})(H_2O)_6]X_4$  ( $R = Me \text{ or } Et, X = Cl \text{ or } Br$ ) by the spontaneous reduction of  $[Ta_6Cl_{12}]^{4+}$  to  $[Ta_6Cl_{12}]^{3+}$  in acidic media: *X*-ray structure analysis of  $NMe_4[(Ta_6Cl_{12})(H_2O)_6]Br_4$  (1985, 455), 1531–2
- Structure and solvation of mercury(II) iodide, bromide, and chloride in pyridine solution; refinement of the crystal structure of diiodobis(pyridine)mercury(II),  $[HgI_2(py)_2]$ , 1597–604
- Preparation and vibrational spectra of  $[OsX_6]^{3-}$  ( $X = Cl, Br, \text{ or } I$ ) and of other platinum-group hexahalogeno-complexes, 1673–6
- High-co-ordination-number compounds of niobium and tantalum: Reactions of niobium and tantalum halides and sulphido-halides with sodium diethyldithiocarbamate. The crystal structures of  $[Nb(S_2CNEt_2)_4]Br$ ,  $Nb(S_2CNEt_2)_3S$ , and  $Ta(S_2CNEt_2)_3(S_2)$ , 1821–8
- New carbonyl derivatives of niobium(I) and tantalum(I), 1989–96
- On the synthesis of dimethylphenylphosphine complexes of manganese(II) halides, 2203–4
- The co-ordination of small molecules by manganese(II) phosphine complexes. Part 3. The dependence on the nature of the halogen in  $[MnX_2(PR_3)]$  ( $X = Cl, Br, \text{ or } I; R_3 = PhMe_2, PhEt_2, PhPr_2, PhBu^u, PhBu^s, Pr^s, Bu^s, \text{ or } Ph$ ) on adduct formation with sulphur dioxide in the solid state and in tetrahydrofuran solution, 2661–4
- HEPTANETRIONE**  
Reactions of metal ions with triketones. Part 2. Kinetics and mechanisms of the reactions of nickel(II) and cobalt(II) with heptane-2,4,6-trione in methanol–water (70:30 v/v), 2565–70
- HETEROPOLYTUNGSTATE**  
Heteropolytungstates as catalysts for the photochemical reduction of oxygen and water, 395–400
- HEXABORANE**  
A kinetic study of the gas-phase thermolysis of hexaborane(10), 541–8
- HEXAFLUOROANTIMONATE**  
The preparation and hydridic reduction of dicationic dicarbonyl complexes of osmium(II); the crystal and molecular structure of *trans*-bis[1,2-bis(diphenylphosphino)ethane-*PP'*]carbonylformylosmium(II) hexafluoroantimonate–dichloromethane (1/1), 387–94
- HEXAMETHYLPHOSPHORAMIDE**  
Thermochemical data for adducts of zinc, cadmium, and mercury halides with hexamethylphosphoramide, 1103–6
- HYDRAZIDE**  
Molybdenum, rhenium, and tungsten complexes with bi- and tri-dentate phosphinothiolato-ligands; structures of  $[Mo\{PhP(CH_2CH_2S)_2\}_2]$  and  $[Mo(NNMe_2)\{PhP(CH_2CH_2S)_2\}_2]$ , 2647–54
- HYDRAZONE**  
The template synthesis and crystal and molecular structure of a seven-co-ordinate manganese(II) complex with 2,6-diacetylpyridine mono(2-aminobenzoylhydrazone), 215–8
- Dynamic behaviour of carbon-metallated palladium hydrazone complexes. Crystal structures of  $[Pd[CH_2CMe_2C(=N-NMePh)Me]Cl]_2$  and  $[Pd[CH_2C(=N-NMePh)Bu]Cl]_2$ , 1155–62
- Investigation into aroylhydrazones as chelating agents. Part 7. Synthesis and spectroscopic characterization of complexes of  $Mn^{II}, Co^{II}, Ni^{II}, Cu^{II}, \text{ and } Zn^{II}$  with 2,6-diacetylpyridine bis(2-aminobenzoylhydrazone) and *X*-ray structure of chloro[2,6-diacetylpyridine bis(2-aminobenzoylhydrazone)](methanol)manganese(II) chloride monohydrate, 2387–92
- HYDRIDE**  
Chemistry of the unsaturated cluster compound  $[Os_3Pt(\mu-H)_2(CO)_{10}\{P(cyclo-C_6H_{11})_3\}]$ ; *X*-ray crystal structures of  $[Os_3Pt(\mu-H)_2(CO)_{11}\{P(cyclo-C_6H_{11})_3\}]$ ,  $[Os_3Pt(\mu-H)_4(CO)_{10}\{P(cyclo-C_6H_{11})_3\}]$ , and  $[Os_3Pt(\mu-H)_2(\mu-CH_2)(CO)_{10}\{P(cyclo-C_6H_{11})_3\}]$  (two isomers), 177–90
- Two-dimensional nuclear magnetic resonance for the analysis of the carbon-13 spectra of carbonyl groups in metalcarbonyls, 225–8
- Systematic synthesis of tetranuclear osmium clusters by the reaction of trinuclear clusters with  $[OsH_2(CO)_4]$ ; crystal structure of  $[Os_4H_2Br(CO)_{13}]$ , 555–64
- Trimethylphosphine polyhydrides of tungsten and rhenium, 587–90
- Synthesis, characterization, and structure of the complex  $[FeH(H_2BH_2)\{CH_3C(CH_2PPh_2)_3\}]$ , 605–10
- Studies on transition-metal cyano-complexes. Part 4. Cyanide hydride complexes of Groups 6A and 8, 717–22
- The addition of protic acids to  $[Mn_2(CO)_5(Ph_2PCH_2PPh_2)_2]$  to give bridging hydrido-compounds, 743–8
- Organoruthenium(II) complexes formed by insertion reactions of some vinyl compounds and conjugated dienes into a hydrido–ruthenium bond, 873–8
- Alkyl, hydrido, and tetrahydroaluminato complexes of manganese with 1,2-bis(dimethylphosphino)ethane (dmpe). *X*-Ray crystal structures of  $Mn_2(\mu-C_6H_{11})_2(C_6H_{11})_2(\mu-dmpe)$ ,  $(dmpe)_2Mn(\mu-H)_2AlH(\mu-H)_2AlH(\mu-H)_2Mn(dmpe)_2$ , and  $Li_4[MnH(C_2H_4)[CH_2(Me)PCH_2CH_2PMe_2]_2 \cdot 2Et_2O$ , 921–30
- Electron-transfer reactions in nitrogen fixation. Part 1. The electrosynthesis of dinitrogen, hydride, isocyanide, and carbonyl complexes of molybdenum: intermediates, mechanisms, and energetics, 1255–64
- Homo- and hetero-dinuclear hydride-bridged complexes containing cyclo-octadiene: the crystal and molecular structure of  $[(\eta^4-C_8H_{12})Ir(\mu-H)(\mu-Cl)IrH_2(PPh_3)_2]$ , 1277–80
- The reaction of  $[Os_3(\mu-H)_2(CO)_9L]$  ( $L = CO \text{ or } PEt_3$ ) with dimethylcyanamide,  $Me_2NCN$ : *X*-Ray crystal structure of  $[Os_3(\mu-H)(\mu-NCHNMe_2)(CO)_{10}]$  and the reactions of this complex with acids, 1355–60
- Bimetallic cyano-bridged cations: preparation and hydride reduction of  $[(\eta^5-C_5H_5)_2Ru(\mu-CN)ML'_2(\eta^5-C_5H_5)]PF_6$  [ $L_1, L_2 = (PPh_3)_2, Ph_2PCH_2CH_2PPh_2; M = Ru \text{ or } Fe$ ]. Formation of  $[Ru(\eta^5-C_5H_5)(PPh_3)_3]$  and *X*-ray crystal structure of  $[(\eta^5-C_5H_5)(Ph_2PCH_2CH_2PPh_2)Ru(\mu-CN)Ru(PPh_3)_2(\eta^5-C_5H_5)]PF_6$ , 1479–86
- Reactivity of the unsaturated anion decacarbonyltetra- $\mu$ -hydrido-trirhenate(1–) toward phenols. Crystal and molecular structures of the tetraethylammonium salts of the triangular cluster anion  $[Re_3(\mu-H)_3(\mu-OC_6F_5)(CO)_{10}]^-$  and of the binuclear anion  $[Re_2(\mu-OC_6H_5)_3(CO)_6]^-$ , 1507–12
- Addition of proton and boron trifluoride at terminal and bridging cyano-ligands in dinuclear manganese compounds, 1609–12
- A theoretical study of three-centre M–H–C interactions, 1637–44
- Reactions of hydride reagents with alkylmolybdenum carbonyl complexes. Reaction of  $LiBHET_3$  with  $[MoMe(CO)_3(\eta^5-C_5H_5)]$ , formation of an anionic acetaldehyde complex, and a stoichiometric cycle for the synthesis of acetaldehyde, 1815–20
- The chemistry and catalytic properties of ruthenium and osmium complexes. Part 1. Homogeneous catalysis of organic reactions by bromo(carbonyl)hydridotris(triphenylphosphine)osmium(II), 1859–64
- Carbon-13 nuclear magnetic resonance evidence of a relaxation process dominated by scalar coupling with a quadrupolar nucleus in  $[Re_3(\mu-H)_4(CO)_{10}]^-$ , 1899–902
- The mechanisms of the reactions between hydrido-complexes and diazonium salts. Part 1. The reactions of *trans*-[PtH(Cl)(PEt<sub>3</sub>)<sub>2</sub>], 2059–66
- The mechanisms of the reactions between hydrido-complexes and diazonium salts. Part 2. The reactions of *cis,mer*-[RhHCl<sub>2</sub>(PEtPh<sub>2</sub>)<sub>3</sub>], 2067–78
- Bimetallic systems. Part 13. Platinum–manganese carbonyl complexes containing bridging  $Ph_2PCH_2PPh_2$ (dppm) ligands:

**HYDRIDE** (contd)

crystal structure of  $[(OC)_3Mn(\mu-dppm)_2PtH(Br)]BF_4$ , 2131–8  
 Synthesis of tetra- and penta-nuclear platinum-osmium carbido-cluster complexes from non-carbido-precursors: *X*-ray structural studies on  $[Os_3Pt(\mu-H)_2(\mu_4-C)(CO)_{10}\{P(cyclo-C_6H_{11})_3\}]$ ,  $[Os_3Pt_2(\mu-H)_2(\mu_5-C)(\mu-CO)(CO)_9\{P(cyclo-C_6H_{11})_3\}_2]$ , and  $[Os_3Pt_2(\mu-H)(\mu_5-C)(\mu-OMe)(\mu-CO)(CO)_9\{P(cyclo-C_6H_{11})_3\}_2]$ , 2437–48

Acid-induced displacement of acetaldehyde from a  $\mu$ -vinylxy-triosmium cluster, 2479–82

Methyltin hydrides in fluorosulphuric acid, 2671–6

**HYDROGEN-1**

Aluminium-27 and hydrogen-1 nuclear magnetic resonance studies of solutions of aluminium salts in alcohol-chloroform mixtures, 591–6

**HYDROGEN BONDING**

Short hydrogen bonds: diadducts of substituted pyridine *N*-oxides: synthesis, spectroscopic studies, and *X*-ray structure, 749–54

**HYDROGEN PEROXIDE**

Coloured species formed from the titanium(IV)-4-(2'-pyridylazo)resorcinol reagent in the spectrophotometric determination of trace amounts of hydrogen peroxide, 81–4

Kinetic and structural investigations of  $[Fe^{III}(edta)]^-$  [*edta* = ethylenediaminetetra-acetate(4-)] catalysed decomposition of hydrogen peroxide, 493–502

Studies on singlet oxygen in aqueous solution. Part 1. Formation of singlet oxygen from hydrogen peroxide with two-electron oxidants, 1141–6

Studies on singlet oxygen in aqueous solution. Part 3. The decomposition of peroxy-acids, 1151–4

Studies on singlet oxygen in aqueous solution. Part 4. The 'spontaneous' and catalysed decomposition of hydrogen peroxide, 2525–30

**HYDROGENPHOSPHATE**

Intercalation of alkylamines into tin(IV) bis(hydrogenphosphate) monohydrate, 213–4

**HYDROGEN TRANSFER**

Dinuclear mono- $\mu$ -chloro-pyridyldiaza rhodium(I) complexes derived from pyridyldi-imines *via* hydrogen transfer from ethanol, 1053–6

**HYDROLYSIS**

Hydrogen generation by hydrolysis of sodium tetrahydroborate: effects of acids and transition metals and their salts, 307–14

Proton exchange and base hydrolysis of *syn,anti-cis*-dichloro(1,4,7,10-tetra-azacyclododecane)cobalt(III) cations, 475–8

An equation for predicting the formation constants of hydroxo-metal complexes, 723–30

Synthesis, characterization and acid hydrolysis of [*N,N*-bis(2-aminoethyl)-1,2-ethanediamine]bis(solvent)cobalt(III) complexes, 1923–8

The hydrolysis of metal ions. Part 8. Aluminium(III), 1967–70

**HYDROXAMATE**

Mono- and bi-nuclear hydroxamates of bis(2-phenylazopyridine)ruthenium(II), 361–8

**HYDROXIDE**

Co-ordination chemistry of higher oxidation states. Part 13.

Synthesis and properties of alkali-metal hydroxo-oxo-osmate(VIII) compounds and the molecular structure of  $Cs[O_4Os(\mu-OH)OsO_4]$ , 199–204

An equation for predicting the formation constants of hydroxo-metal complexes, 723–30

A disagreement on the explanation of short and long As–O bonds of the  $(As-O)_4$  ring in  $As_4(CF_3)_6O_6(OH)_2$  in terms of  $As^{III}-O$  and  $As^V-O$  bonds, 2221–2

Equilibrium and structural studies of silicon(IV) and aluminium(III) in aqueous solution. Part 13. A potentiometric and  $^{27}Al$  nuclear magnetic resonance study of speciation and equilibria in the aluminium(III)-oxalic acid-hydroxide system, 2665–70

**HYDROXIDE**

Complexes of lanthanoid salts with macrocyclic ligands. Part 17. Synthesis and crystal and molecular structure of a hydroxide-bridged praseodymium trifluoroacetate complex with 15-crown-5-ether,  $[Pr_2(CF_3CO_2)_3(OH)(C_{10}H_{20}O_5)_2] \cdot [Pr_2(CF_3CO_2)_8]$ , 885–90

**HYDROXYCARBONYL**

Acidic and basic properties of the hydroxycarbonyl complex  $[IrCl_2(CO_2H)(CO)(PMe_2Ph)_2]$ , 857–60

**HYDROXYLAMINE**

A new reaction of nitrosyl complexes; one-electron reduction of *trans*- $[MX(NO)L_4]^{2+}$  [*M* = Ru or Fe, *X* = Cl or Br, *L* = pyridine or *o*-phenylenebis(dimethylarsine)] with hydroxylamine, 1733–4

**HYPOPHOSPHOROUS ACID**

Kinetics and mechanism of electron-transfer reactions of bismuth(V) in aqueous acidic perchlorate-fluoride media. Part 1. Oxidation of hypophosphorous acid, 2571–4

**IMIDAZOLE**

A mechanistic study of the reaction of iron(III) porphyrins with imidazoles. Hydrogen bonding by the propionic acid side chains in hemin chloride, 2269–76

Studies on spin-equilibrium iron(III) complexes. Part 1. Syntheses and magnetic properties of a new family of spin cross-over iron(III) complexes with a unidentate ligand over a wide range of the spectrochemical series and a quinqueidentate ligand derived from salicylaldehyde and di(3-aminopropyl)amine. *X*-Ray crystal structure of [4-azaheptamethylene-1,7-bis(salicylideneiminato)](4-methylpyridine)iron(III) tetraphenylborate, 2575–84

**IMIDAZOLYL**

Co-ordination chemistry of dimethylgold(III). Synthesis, structural ligands, and fluxional behaviour of complexes with polydentate ligands, 1183–90

**IMIDE**

Complexes of organoaluminium compounds. Part 13. Preparation and nuclear magnetic resonance spectra of the arylamido-compounds  $AlMe_2(NHR')$  (*R'* = Ph,  $C_6H_4Me-o$ ,  $C_6H_4Me-p$ ,  $C_6H_3Me_2-2,6$ ) and the imido-compounds  $AlMe(NR')$ . Crystal and molecular structures of  $[AlMe_2(NHC_6H_4Me-o)]_2$  and  $[AlMe(NPh)]_6$ , 1929–34

Rhenium nitrido-, arylimido-, nitrile, and carbonyl complexes with sterically hindered thiolate ligands, 2305–10

**IMINE**

Dinuclear mono- $\mu$ -chloro-pyridyldiaza rhodium(I) complexes derived from pyridyldi-imines *via* hydrogen transfer from ethanol, 1053–6

**INDIUM**

Kinetics and mechanisms of complex formation of gallium(III) and indium(III). The reactions with 4-(2-pyridylazo)resorcinol in water and other mixed solvents, 2615–22

Indium derivatives of monothio- $\beta$ -diketones and the *X*-ray structure of tris(benzoyl(thiobenzoyl)methanato-*O,S*)indium(III), 2623–8

**INSERTION**

Insertion of carbon dioxide, of  $CO_2$ -like molecules, and of other unsaturated compounds into the platinum–nitrogen bond of  $[Pt(PPh_3)_2(PhNO)]$ , 163–8

Organoruthenium(II) complexes formed by insertion reactions of some vinyl compounds and conjugated dienes into a hydrido-ruthenium bond, 873–8

**INTERCALATION**

Intercalation of alkylamines into tin(IV) bis(hydrogenphosphate) monohydrate, 213–4

**INVERSION**

Pyramidal inversion in configurational isomers of tetracarbonyl[1,1,2,2-tetrakis(methylthio)ethane]chromium(0): a two-dimensional nuclear magnetic resonance exchange study, 2195–202

**IODATE**

Oxidation of thiourea by iodate: a new type of oligo-oscillatory reaction, 1669–72

**IODIDE**

The peroxodisulphate-iodide reaction. Reactivity and ionic association and solvation in isodielectric water-solvent mixtures, 31–4

Iodine-127 Mössbauer spectroscopy of copper(I) iodide-phosphine adducts, 1727–30

Reactions of some decaosmium clusters with electrophilic and nucleophilic reagents: *X*-ray structure analyses of  $[N(PPh_3)_2][Os_{10}C(CO)_{24}(\mu-I)]$ ,  $[Os_{10}C(CO)_{24}(\mu-I)_2]$ ,  $[N(PPh_3)_2][Os_{10}C(CO)_{22}(NO)I]$ ,  $[Os_{10}C(CO)_{23}\{P(OMe)_3(\mu-I)_2\}]$  and of two isomers of  $[Os_{10}C(CO)_{21}\{P(OMe)_3\}_4]$ , 1795–810

**IODINE**

Thermochemistry of polyhalides. Part 5. Standard enthalpies of formation of tetramethylammonium and tetraethylammonium tetrachloroiodates, 997–1000

**IODINE-127**

Iodine-127 Mössbauer spectroscopy of copper(I) iodide-phosphine



**IODINE-127** (contd)

adducts, 1727–30

**ION EXCHANGE**

Crystalline zirconium(IV) hydrogenarsenate hydrogenphosphate monohydrate: synthesis, ion-exchange properties, and thermal behaviour, 1737–42

Ion exchange of  $K_4Nb_6O_{17} \cdot 3H_2O$ , 2349–52**IONIC STRENGTH**On the possibility of determining the thermodynamic parameters for the formation of weak complexes using a simple model for the dependence on ionic strength of activity coefficients:  $Na^+$ ,  $K^+$ , and  $Ca^{2+}$  complexes of low molecular weight ligands in aqueous solution, 2353–62**I.R.**Characterisation of chromium(VI) oxide tetrafluoride,  $CrOF_4$ , and caesium pentafluoro-oxochromate(VI)  $Cs[CrOF_5]$ , 529–34Synthesis, spectroscopy, and structure of the mixed-valence complexes  $[Pt^{II}(en)_2][Pt^{IV}(en)_2X_2]$  [ $Pt^{III}_2(H_2P_2O_5)_4X_2$ ] ( $en = 1,2$ -diaminoethane,  $X = Br$  or  $I$ ), 579–86The molecular structure of gaseous dimethylamidogallane: characterization of the dimer  $[Me_2NGaH_2]_2$  by electron diffraction and vibrational spectroscopy, 807–14Isolated CH stretching frequencies, methyl group geometry, and methyl CH bond lengths and strengths in tricarbonyl( $\eta^5$ -cyclopentadienyl)methylchromium(II), -molybdenum(II), and -tungsten(II), 1207–12Spectroscopic studies on the higher binary fluorides of chromium:  $CrF_4$ ,  $CrF_5$ , and  $CrF_6$ , both in the solid state and isolated in inert gas matrices, 1443–50Preparation and vibrational spectra of  $[OsX_6]^{3-}$  ( $X = Cl, Br, \text{ or } I$ ) and of other platinum-group hexahalogeno-complexes, 1673–6**IRIDATETRABORANE**The crystal and molecular structure of  $[1,1,1,1-(CO)H(PPh_3)_2\text{-}arachno\text{-}1\text{-}IrB_3H_7]$  and some bonding considerations in *arachno*-type four-vertex metal ' $\pi$ -allyl' and 'borallyl' clusters, 1843–8**IRIDIUM**Bimetallic systems. Part 8. Heterobimetallic di-isocyanide or isocyanide-carbonyl complexes of rhodium or iridium bridged to silver or gold by  $Ph_2PCH_2PPh_2$ , 511–6Complexes of the platinum metals. Part 23. Synthesis of the nitrosyl carboxylate complexes  $[M(O_2CR)_2(NO)(PPh_3)_2]$  ( $M = Rh$  or  $Ir$ ;  $R = CF_3, C_2F_5$ , or  $C_6F_5$ ): crystal and molecular structures of the trifluoroacetate derivatives  $[M(O_2CCF_3)_2(NO)(PPh_3)_2]$ , 611–6Complexes of the platinum metals. Part 24. The role of dioxygen in the reactions of trifluoroacetic acid with the rhodium and iridium nitrosyls  $[M(NO)(PPh_3)_3]$ , 617–20

Studies on transition-metal cyano-complexes. Part 4. Cyanide hydride complexes of Groups 6A and 8, 717–22

Acidic and basic properties of the hydroxycarbonyl complex  $[IrCl_2(CO_2H)(CO)(PMe_2Ph)_2]$ , 857–60Homo- and hetero-dinuclear hydride-bridged complexes containing cyclo-octadiene: the crystal and molecular structure of  $[(\eta^4\text{-}C_8H_{12})Ir(\mu\text{-}H)(\mu\text{-}Cl)IrH_2(PPh_3)_2]$ , 1277–80Fluorophosphine complexes of rhodium(I) and iridium(I): towards the design of systems with extended metal-metal interactions. The crystal structure of  $[\{IrCl(PF_3)_2\}_2]$ , 1295–302

The concentration and selective extraction of copper(II), rhodium(III), and iridium(III) using a copolymer functionalised with dithiocarbamate groups. Spectroscopic evidence for the nature of the binding sites, 1655–60

Kinetics and mechanism of the oxidation of substituted malonic acids by the hexachloroiridate(IV) ion, 1683–8

The crystal and molecular structure of  $[1,1,1,1-(CO)H(PPh_3)_2\text{-}arachno\text{-}1\text{-}IrB_3H_7]$  and some bonding considerations in *arachno*-type four-vertex metal ' $\pi$ -allyl' and 'borallyl' clusters, 1843–8*l*H-pyrrolo[2,3-*b*]pyridine (HL) ligands in rhodium(I) and iridium(I) chemistry. Crystal and molecular structures of  $[Rh_2(\mu\text{-}L)_2(nbd)_2]$  and  $[Rh_4(\mu\text{-}Cl)_2(\mu\text{-}L)_2(\mu\text{-}CO)_2(CO)_2(nbd)_2]$ , 1891–8

Complexes of the platinum metals. Part 30. Fragmentation reactions of rhodium and iridium trichloro- and tribromoacetates, 2113–20

Reactions of co-ordinated ligands. Part 35. Evidence for carbon-carbon double-bond cleavage of cyclopropenes in their reaction with dinuclear cobalt, rhodium, and iridium complexes; crystal structure and protolysis of  $[Rh_2(\mu\text{-}CO)(\mu\text{-}COCHCMe_2CH)(\mu\text{-}C_5Me_5)_2]$ , 2483–92**IRON**

Rate parameters for oxygen and carbon monoxide binding to a

liposome-embedded heme under physiological conditions, 65–8  
Phosphocholine-substituted 5,10,15,20-tetraphenylporphyrinatoiron(II): oxygen carrier under physiological conditions, 275–8Macrocyclic polyphosphane ligands. Iron(II), cobalt(II), and nickel(II) complexes of (4*RS*,7*RS*,13*SR*,16*SR*)-tetraphenyl-1,10-dipropyl-1,10-diaza-4,7,13,16-tetraphosphacyclo-octadecane: crystal structures of their tetraphenylborate derivatives, 479–86Kinetic and structural investigations of  $[Fe^{III}(edta)]^-$  [ $edta = \text{ethylenediaminetetra-acetate}(4-)$ ] catalysed decomposition of hydrogen peroxide, 493–502Synthesis, characterization, and structure of the complex  $[FeH(H_2BH_2)\{CH_3C(CH_3)PPh_2\}_3]$ , 605–10Synthesis of  $[Fe(\eta^4\text{-}C_8H_8)(CO)_2L]$  [ $L = MeNC, Pr^iNC, Bu^iNC, PhNC, 2,6\text{-}Me_2C_6H_3NC, \text{ or } P(OMe)_3$ ] and proof of the applicability of the Woodward-Hoffmann rules to the fluxionality of  $[Fe(\eta^4\text{-}C_8H_8)(CO)_2(CNPr^i)]$ , 693–8Reduction-oxidation properties of organotransition-metal complexes. Part 20. Oxidative and thermolytic cyclopropane ring-opening reactions; X-ray crystal structure of  $[Fe_2(CO)_6(\eta^4\text{-}C_{16}H_{18})]$ , 699–706

Difluorophosphate complexes of chromium, manganese, iron, cobalt, and nickel, 707–10

Annulation of ring-opened arylcyclopropenium ions to co-ordinated cyclo-octatetraene, and the X-ray crystal structure of  $[Fe(CO)_3(\sigma\text{-}\eta^3\text{-}C_{11}H_9Ph_3)]$ , 777–82Transfer chemical potentials for  $Fe^{2+}$  from water into aqueous methanol: a comment, 867–6Transfer chemical potentials for  $Fe^{2+}$  from water into aqueous methanol: a reply, 867–70

The red form of bis(1,10-phenanthroline)dithiocyanatoiron(II), 991–6

Reduction-oxidation properties of organotransition-metal complexes. Part 22. Stereospecific oxidative cyclopropane ring opening and reductive cyclobutane ring formation in polycyclic hydrocarbon complexes of iron; X-ray crystal structures of  $[Fe_2(CO)_6(\eta^5\text{-}\eta^5\text{-}C_{16}H_{16})][PF_6]_2 \cdot CH_3NO_2$  and  $[Fe_2(CO)_6(\eta^4\text{-}\eta^4\text{-}C_{16}H_{16})]$ , 1027–36Electron spin resonance studies of iron(III) complexes of ethylenediaminetetra-acetate and *N*-(2-hydroxyethyl)ethylenediamine-*NN'N'*-triacetate in co-ordinating solvents, 1077–80Carbon-carbon formation at di-iron centres. Part 2. Reactivity of  $[Fe_2(CO)_6(\mu\text{-}COEt)\{\mu\text{-}C(R)C(R)H\}]$  complexes toward  $MeOC(O)C\equiv CC(O)OMe$  ( $R = Ph$ ) and  $CF_3C\equiv CCF_3$  ( $R = Ph$  or  $H$ ); X-ray crystal structures of  $[Fe_2(CO)_5\{\mu\text{-}C(OEt)C[C(O)OMe]C[C(O)OMe]\}\{\mu\text{-}C(Ph)C(Ph)H\}]\cdot H_2O$  and  $[Fe_2(CO)_6\{\mu\text{-}C(CF_3)C(CF_3)CHCH(OMe)\}]$ , 1087–94

Equilibrium and kinetic study of pyridine binding to phthalocyaninatoiron(II) in dimethyl sulphoxide, 1107–12

Equilibrium and kinetic study of the reaction between phthalocyaninatoiron(II) and carbon monoxide in dimethyl sulphoxide in the presence of pyridine. Evidence for the formation of a transient, 1113–8

On the effect of cyanide ion on the reaction of pentacyanonitrosylferrate(2-) with cysteine, 1191–4

Synthesis, structures, and reactivities of some pentamethylcyclopentadienyl-sulphur compounds, 1303–8

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 34. Reactions of sulphur and selenium with the di-iron-tungsten complexes  $[Fe_2W(\mu\text{-}CR)(\mu\text{-}CO)(CO)_8(\eta\text{-}C_5H_5)]$  ( $R = C_6H_4Me\text{-}4$  or  $Me$ ); crystal structures of  $[Fe_2W(\mu\text{-}CC_6H_4Me\text{-}4)(\mu\text{-}S)(CO)_7(\eta\text{-}C_5H_5)]$  and  $[Fe_2W(\mu\text{-}SCMe)(CO)_8(\eta\text{-}C_5H_5)]$ , 1323–30Photochemistry of dicarbonyl( $\eta^5$ -cyclopentadienyl)-methyl- and -ethyl-iron and -ruthenium complexes in solutions at  $-30^\circ C$  and in frozen gas matrices at 12 K, 1365–74Magnetic exchange interactions in perovskite solid solutions. Part 5. The unusual defect structure of  $SrFeO_{3-x}$ , 1455–70Bimetallic cyano-bridged cations: preparation and hydride reduction of  $[(\eta^5\text{-}C_5H_5)_2Ru(\mu\text{-}CN)ML_2(\eta^5\text{-}C_5H_5)]PF_6$  [ $L_2 = (PPh_3)_2, Ph_2PCH_2CH_2PPh_2; M = Ru$  or  $Fe$ ]. Formation of  $[Ru(\eta^5\text{-}C_5H_5)(PPh_3)H_3]$  and X-ray crystal structure of  $[(\eta^5\text{-}C_5H_5)(Ph_2PCH_2CH_2PPh_2)Ru(\mu\text{-}CN)Ru(PPh_3)_2(\eta^5\text{-}C_5H_5)]PF_6$ , 1479–86Synthesis and structural studies of some 1,1'-dichloroferrocene derivatives of platinum(II). Crystal and molecular structure of 2,2- $\mu\text{-}[(1\text{-}2,5\text{-}6\text{-}\eta\text{-}cis,cis\text{-}cyclo\text{-}octa\text{-}1,5\text{-}diene)platino]\text{-}bis(1,1\text{-}dichloroferrocene)$ , 1527–30

**IRON (contd)**

- Geometry-dependent carbon-13 chemical shifts in ( $\eta^6$ -[2.2]cyclophane)( $\eta^5$ -cyclopentadienyl)iron(II) hexafluorophosphates, 1661-4
- Formation of oxidized molybdenum-bearing ferrites,  $\text{Fe}_{2.95-x}\text{Mo}_x\text{O}_4$  ( $x = 0.03-0.30$ ) in aqueous suspensions by air oxidation and valence state of molybdenum ions in the lattice, 1713-6
- Studies on the regioselective preparation of tricarbonyl(cyclohexadienyl)iron(1+) salts, 1723-6
- A new reaction of nitrosyl complexes; one-electron reduction of *trans*-[MX(NO)L<sub>4</sub>]<sup>2+</sup> [M = Ru or Fe, X = Cl or Br, L = pyridine or *o*-phenylenebis(dimethylarsine)] with hydroxylamine, 1733-4
- Magnetic circular dichroism spectra of tris-chelate complexes of 2,2'-bipyridyl and 1,10-phenanthroline with iron(II), ruthenium(II), and osmium(II) at 4.2 K, 1781-8
- Organic chemistry of dinuclear metal centres. Part 8. Organo-iron-ruthenium chemistry. X-Ray structure of *trans*-[FeRu(CO)<sub>2</sub>( $\mu$ -CO)<sub>2</sub>( $\eta$ -C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>], 1935-44
- The peroxodisulphate-hexacyanoferrate(II) reaction. Reactivity and ionic association in isodielectric water-co-solvent mixtures, 1975-6
- Reactivity of [PPh<sub>4</sub>][Fe<sub>2</sub>(CO)<sub>6</sub>{ $\mu$ -CPhCPhC(CF<sub>3</sub>)C(CF<sub>3</sub>)H}] toward electrophiles. X-Ray structure of [Fe<sub>2</sub>(CO)<sub>6</sub>{ $\mu$ -CPhCPhC(CF<sub>3</sub>)C(CF<sub>3</sub>)H}], a product resulting from fluorine abstraction at a CF<sub>3</sub> group and subsequent fluorine substitution by ethoxy-groups, 1981-4
- Crystal structure and spectroscopic and redox properties of the iron-sulphur cluster compound [NEt<sub>4</sub>]<sub>2</sub>[Fe<sub>4</sub>S<sub>4</sub>(SC<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>-4)<sub>4</sub>], 2161-6
- A mechanistic study of the reaction of iron(III) porphyrins with imidazoles. Hydrogen bonding by the propionic acid side chains in hemin chloride, 2269-76
- Metallaborane chemistry. Part 14.<sup>1</sup> Icosahedral  $\eta^6$ -arene carbametallaboranes of iron and ruthenium; molecular structures of *closo*-[1-( $\eta^6$ -C<sub>6</sub>H<sub>5</sub>Me)-2,4-Me<sub>2</sub>-1,2,4-FeC<sub>2</sub>B<sub>9</sub>H<sub>9</sub>] and *closo*-[3-( $\eta^6$ -C<sub>6</sub>H<sub>6</sub>)-3,1,2-RuC<sub>2</sub>B<sub>9</sub>H<sub>11</sub>], 2343-8
- Crystal structures and magnetism of binuclear iron(III) complexes with a linear oxo-bridge, [Fe<sub>2</sub>O(bbimae)<sub>2</sub>X<sub>2</sub>][NO<sub>3</sub>]<sub>2</sub> {bbimae = 2-[bis(benzimidazol-2-ylmethyl)amino]ethanol, X = Cl or NCS}, 2375-80
- Selective conversion of CO into methanol at ordinary temperature. Part 4. Activation by iron(II), iron(III), and chromium(III) complexes, 2499-504
- Magnetic and spectroscopic properties of some heterotrinnuclear basic acetates of chromium(III), iron(III), and divalent metal ions, 2509-20
- The [Fe<sub>3</sub>( $\mu_3$ -CR)(CO)<sub>10</sub>]<sup>-</sup> cluster anions as building blocks for the synthesis of mixed-metal clusters. Part 1. Synthesis of mixed clusters [MFe<sub>3</sub>( $\mu_3$ -CMe)(CO)<sub>10</sub>(PPh<sub>3</sub>)<sub>3</sub>] (M = Cu or Au) and crystal structure of [CuFe<sub>3</sub>( $\mu_3$ -CMe)(CO)<sub>10</sub>(PPh<sub>3</sub>)<sub>3</sub>], 2521-4
- Studies on spin-equilibrium iron(III) complexes. Part 1. Syntheses and magnetic properties of a new family of spin cross-over iron(III) complexes with a unidentate ligand over a wide range of the spectrochemical series and a quinqueidentate ligand derived from salicylaldehyde and di(3-aminopropyl)amine. X-Ray crystal structure of [4-azaheptamethylene-1,7-bis(salicylideneiminato)](4-methylpyridine)iron(III) tetraphenylborate, 2575-84
- Conformation analysis of compounds of the type [Fe( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)(CO)(PPh<sub>3</sub>(CH<sub>2</sub>R))] (R = alkyl or aryl): a comment, 2691
- Conformation analysis of compounds of the type [Fe( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)(CO)(PPh<sub>3</sub>(CH<sub>2</sub>R))] (R = alkyl or aryl): a reply, 2691
- ISOCYANATE**
- Magnetic behaviour of tetrakis[(2-diethylaminoethanolato)isocyanato]copper(II), a complex with an antiferromagnetic ground state; the crystal and molecular structure of the triclinic modification, 1909-14
- ISOCYANIDE**
- Bimetallic systems. Part 8. Heterobimetallic di-isocyanide or isocyanide-carbonyl complexes of rhodium or iridium bridged to silver or gold by Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>, 511-6
- Synthesis and structural characterisation of some *triangulo*-platinum clusters containing isocyanide ligands, 1693-8
- Preparation and properties of *mer*-[ReCl(N<sub>2</sub>)(CNR){P(OMe)<sub>3</sub>}]<sub>3</sub> (R = Me, Et, Bu<sup>1</sup>, C<sub>6</sub>H<sub>4</sub>Me-4, or C<sub>6</sub>H<sub>4</sub>Cl-4) and [ReCl(N<sub>2</sub>)(CNMe)(PPh<sub>3</sub>){P(OEt)<sub>3</sub>}]<sub>2</sub>. X-Ray crystal structure of *mer*-[ReCl(N<sub>2</sub>)(CNMe){P(OMe)<sub>3</sub>}]<sub>3</sub> and reductive cleavage of

the isocyanide ligands to primary amines upon protonation, 2079-84

**ISOMERISM**

- Studies of phosphazenes. Part 22. High-field nuclear magnetic resonance investigation of novel isomeric oxophosphazadienes, 1431-4
- Linkage isomerism in penta-ammineruthenium(II),(III) complexes of benzotriazole, 2469-72

**ISOMERIZATION**

The red form of bis(1,10-phenanthroline)dithiocyanatoiron(II), 991-6

Crystal structures and interrelationships of the blue and green conformational isomers of tetrakis(trimethylarsine sulphide)cobalt(II) perchlorate, 1289-94

**ISOPOLYANION**

Ion exchange of K<sub>4</sub>Nb<sub>6</sub>O<sub>17</sub>·3H<sub>2</sub>O, 2349-52

**ISOTHIOCYANATE**

Crystal and molecular structures and magnetic properties of four new exchange-coupled copper(II) complexes derived from different 3-*N,N*-dialkylamino-1-propanols and pseudohalogens, 1243-8

**KETONE**

Co-ordination chemistry of pyridyl and *N*-methylimidazolyl ketones. Synthetic and X-ray structural studies of copper(II), nickel(II), and dimethylgold(III) complexes, 981-6

From diarylruthenium complexes to *ortho*-metallated ketones: a mechanistic and crystal structure study, 1235-42

**KINETICS**

The kinetics of the displacement, by chloride, of heterocyclic nitrogen bases (am) from *trans*-[Pt(am)Cl<sub>2</sub>] (L = C<sub>2</sub>H<sub>4</sub>, CO, or PMe<sub>3</sub>). The effect of steric hindrance in the leaving group on the *trans* effect of L, 27-30

The peroxodisulphate-iodide reaction. Reactivity and ionic association and solvation in isodielectric water-solvent mixtures, 31-4

Rate parameters for oxygen and carbon monoxide binding to a liposome-embedded heme under physiological conditions, 65-8

Reaction of bis- $\mu$ -diethylphosphido-bis(tetracarbonylmethyl) (M-M) (M = Cr or W) with tri-*n*-butylphosphine: kinetics and mechanism of a reaction involving seven-co-ordinate complexes, 91-8

Studies of phosphazenes. Part 21. Associative and dissociative pathways in the aminolysis reactions of halogenocyclotriphosphazenes, 285-90

Hydrogen generation by hydrolysis of sodium tetrahydroborate: effects of acids and transition metals and their salts, 307-14

Light-induced electron-transfer reactions. Part 3. Kinetics of the oxidation reaction of oxalate ion by peroxodisulphate ion, induced by irradiation with visible light of an aqueous solution containing tris(2,2'-bipyridine)ruthenium(II), 355-60

Proton exchange and base hydrolysis of *syn,anti*-*cis*-dichloro(1,4,7,10-tetra-azacyclododecane)cobalt(III) cations, 475-8

Kinetic and structural investigations of [Fe<sup>III</sup>(edta)]<sup>-</sup> [edta = ethylenediaminetetraacetate(4-)] catalysed decomposition of hydrogen peroxide, 493-502

A kinetic study of the gas-phase thermolysis of hexaborane(10), 541-8

Kinetics and mechanism of single electron oxidations of the tervalent uranium ion, U<sup>3+</sup>(aq), by free radicals in aqueous solutions, 641-4

Displacement of pyridine-2-methanol from dichloro(pyridine-2-methanolato)gold(III) in acidic solution. Ring opening at oxygen, 731-6

Electron-transfer reactions from *cis*-dialkylbis(2,2'-bipyridyl)cobalt(III) complexes to organic oxidants, 899-904

Mechanism of addition of aryltrimethyl-silanes and -stannanes to tricarbonyl(cyclohexadienyl)ruthenium(II) cation, 1049-52

Reactions of cobalt(II) protoporphyrin IX dimethyl ester, [Co<sup>II</sup>P], and [Co<sup>III</sup>P(Cl)] in co-ordinating aliphatic alcohols, 1095-102

Equilibrium and kinetic study of pyridine binding to phthalocyaninatoiron(II) in dimethyl sulphoxide, 1107-12

Equilibrium and kinetic study of the reaction between phthalocyaninatoiron(II) and carbon monoxide in dimethyl sulphoxide in the presence of pyridine. Evidence for the formation of a transient, 1113-8

Studies on singlet oxygen in aqueous solution. Part 1. Formation of singlet oxygen from hydrogen peroxide with two-electron oxidants, 1141-6

**KINETICS (contd)**

- Studies on singlet oxygen in aqueous solution. Part 2. Water-soluble square-planar nickel complexes as quenchers, 1147-50
- Studies on singlet oxygen in aqueous solution. Part 3. The decomposition of peroxy-acids, 1151-4
- On the effect of cyanide ion on the reaction of pentacyanonitrosylferrate(2-) with cysteine, 1191-4
- Kinetic studies of oxidative dealkylation of alkylcobalamins by hexachloroplatinate(IV), 1375-80
- Kinetics and mechanism of the reductions of tris(oxalato)cobaltate(III) ion by ruthenium(II) species in aqueous solution, 1665-8
- Oxidation of thiourea by iodate: a new type of oligo-oscillatory reaction, 1669-72
- Kinetics and mechanism of the oxidation of substituted malonic acids by the hexachloroiridate(IV) ion, 1683-8
- The kinetics and stoichiometry of silver(III) reduction by the octacyano-complexes of molybdenum(IV) and tungsten(IV), 1789-94
- The peroxodisulphate-hexacyanoferrate(II) reaction. Reactivity and ionic association in isodielectric water-co-solvent mixtures, 1975-6
- The mechanisms of the reactions between hydrido-complexes and diazonium salts. Part 1. The reactions of *trans*-[PtH(Cl)(PEt<sub>3</sub>)<sub>2</sub>], 2059-66
- The mechanisms of the reactions between hydrido-complexes and diazonium salts. Part 2. The reactions of *cis,mer*-[RhHCl<sub>2</sub>(PEtPh<sub>2</sub>)<sub>3</sub>], 2067-78
- The preparation of trichloro(phenyl 2-pyridylmethyl sulphoxide)gold(III) and the kinetics and equilibria of its formation and subsequent reactions, 2091-4
- A mechanistic study of the reaction of iron(III) porphyrins with imidazoles. Hydrogen bonding by the propionic acid side chains in hemin chloride, 2269-76
- Studies of phosphazenes. Part 21. Associative and dissociative pathways in the aminolysis reactions of halogenocyclotriphosphazenes (1985, 285), 2459-60
- A kinetic study of the complexation of cysteine and related compounds with aqueous vanadium(II) and vanadium(III) at approximately neutral pH; the mediating role of sulphur compounds in electron transfer, 2461-8
- Linkage isomerism in penta-ammineruthenium(II), (III) complexes of benzotriazole, 2469-72
- Kinetics and mechanism of the equilibration reaction between (2,2',2''-nitrioltriethoxy)nitrosylvanadate(1-) and cyanide. Crystal structures of sodium (2,2',2''-nitrioltriethoxy)nitrosylvanadate(1)-sodium perchlorate tetrahydrate and of barium cyano(2,2',2''-nitrioltriethoxy)nitrosylvanadate(1) pentahydrate, 2493-8
- Studies on singlet oxygen in aqueous solution. Part 4. The 'spontaneous' and catalysed decomposition of hydrogen peroxide, 2525-30
- Reactions of metal ions with triketones. Part 2. Kinetics and mechanisms of the reactions of nickel(II) and cobalt(II) with heptane-2,4,6-trione in methanol-water (70:30 v/v), 2565-70
- Kinetics and mechanism of electron-transfer reactions of bismuth(V) in aqueous acidic perchlorate-fluoride media. Part 1. Oxidation of hypophosphorous acid, 2571-4
- Kinetics and mechanisms of complex formation of gallium(III) and indium(III). The reactions with 4-(2-pyridylazo)resorcinol in water and other mixed solvents, 2615-22
- Kinetics and mechanism of ortho-palladation of ring-substituted *N,N*-dimethylbenzylamines, 2629-38

**LABELLING**

- Steric changes at labelled NH<sub>2</sub> sites during the base-catalysed ammoniation of the *trans*-azido(dimethyl sulphoxide)bis(ethylenediamine)cobalt(III) ion, 1495-500
- Oxygenation studies. Part 7. Catalytic dioxygenation of cyclo-octa-1,5-diene at a rhodium centre, 1591-6
- Steric changes at labelled NH<sub>2</sub> sites during the base-catalysed ammoniation of the *trans*-azido(dimethyl sulphoxide)bis(ethylenediamine)cobalt(III) ion, 2223-4

**LANTHANIDE**

- Mixed-ligand complexes of trivalent lanthanides. Part 3. Complexes of heptafluorodimethyloctane-3,5-dione and pyrazine: syntheses and spectral studies, 2547-50

**LEAD**

- Subvalent group 4B metal alkyls and amides. Part 7. Transition-metal chemistry of metal(II) bis(trimethylsilyl)amides M'(NR<sub>2</sub>)<sub>2</sub> (R = SiMe<sub>3</sub>; M' = Ge, Sn, or Pb), 51-8

**LIQUID CRYSTAL N.M.R.**

- Determination of the molecular structure of difluorophosphine sulphide by the combined analysis of data from electron diffraction, microwave spectroscopy, and liquid crystal nuclear magnetic resonance spectroscopy, 755-60

**LITHIO**

- Synthesis of  $\alpha$ -lithioarylmethanes of *m*-xylene and its  $\alpha$ -trimethylsilyl derivatives; crystal structure of [Li(Me<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>NMe<sub>2</sub>)<sub>2</sub>]{C<sub>6</sub>H<sub>4</sub>(CHSiMe<sub>3</sub>)<sub>2</sub>-*m*}, 337-44

**LITHIUM**

- Synthesis of  $\alpha$ -lithioarylmethanes of *m*-xylene and its  $\alpha$ -trimethylsilyl derivatives; crystal structure of [Li(Me<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>NMe<sub>2</sub>)<sub>2</sub>]{C<sub>6</sub>H<sub>4</sub>(CHSiMe<sub>3</sub>)<sub>2</sub>-*m*}, 337-44

**LUMINESCENCE**

- Glycine complexation with uranyl ion: absorptiometric, luminescence, and X-ray structural studies of tetrakis-(glycine)dioxouranium(VI) nitrate, 517-22

**MACROCYCLE**

- Preparation of 11-(2'-dimethylaminoethyl)-1,4,7-trimethyl-1,4,7,11-tetra-azacyclotetradecane, and characterisation of its nickel(II), copper(II), and zinc(II) complexes, 219-22
- The preparation and co-ordination chemistry of 2,2':6',2''-terpyridine macrocycles. Part 4. Structural characterisation of an intermediate in a transient template reaction, 333-6
- Macrocyclic polyphosphane ligands. Iron(II), cobalt(II), and nickel(II) complexes of (4*RS*,7*RS*,13*SR*,16*SR*)-tetraphenyl-1,10-dipropyl-1,10-diaza-4,7,13,16-tetraphosphacyclo-octadecane: crystal structures of their tetraphenylborate derivatives, 479-86
- Reaction of some aliphatic diamines with four-co-ordinated unsymmetrical ketoenamine copper(II) and nickel(II) complexes, 803-6
- Reactions of cobalt(II) protoporphyrin IX dimethyl ester, [Co<sup>II</sup>P], and [Co<sup>III</sup>P(Cl)] in co-ordinating aliphatic alcohols, 1095-102
- Solution chemistry of macrocycles. Part 4. Thermodynamics of protonation and complexation of several N<sub>2</sub>S<sub>2</sub> macrocycles, 1169-72
- Macrocyclic polyphosphane ligands. Cobalt(II) and nickel(II) complexes of 5*RS*,8*RS*,16*RS*,19*RS*-tetraphenyl-5,8,16,19-tetraphospha-1,12-dithiacyclodocosane ( $\delta$ -L<sup>1</sup>) and the crystal structure of [Co( $\delta$ -L<sup>1</sup>)] [BF<sub>4</sub>]<sub>2</sub>·0.5H<sub>2</sub>O, 1179-82
- Studies of pendant-arm macrocyclic ligands. Part 4. Two penta-aza macrocycles based on 1-(2'-dimethylaminoethyl)-1,5,9,13-tetra-azacyclohexadecane and its complexes with bivalent metal ions, 1361-4
- Macrocyclic polyphosphane ligands. Cobalt(II) and nickel(II) complexes of the  $\gamma$  and  $\epsilon$  diastereoisomers of 4,7,13,16-tetraphenyl-4,7,13,16-tetraphospha-1,10-dithiacyclo-octadecane (L<sup>1</sup>) and the crystal structure of [Co( $\epsilon$ -L<sup>1</sup>)] [BPh<sub>4</sub>]<sub>2</sub>·EtOH, 1425-30
- Dismutation of superoxide ion in an aprotic solvent by 5,10,15,20-tetra-*p*-tolylporphyrinatocobalt(II), 1513-6
- Mono- and di-nuclear rhodium and palladium complexes of macrocyclic ligands containing the 2,6-di(thiomethyl)pyridine sub-unit, 1517-22
- Studies in the flexibility of macrocycle ligands. Calculation of macrocycle cavity size by force-field methods. Crystal and molecular structures of [CoLCl][ClO<sub>4</sub>]<sub>2</sub> and [CuL][PF<sub>6</sub>]<sub>2</sub> {L = 2,13-dimethyl-3,6,9,12,18-penta-azabicyclo[12.3.1]octadeca-1(18),14,16-triene}, 1829-34
- The stability of nickel(II) complexes of tetra-aza macrocycles, 1877-80
- Reactions of tris[(2*S*)-2-(aminomethyl)pyrrolidine]nickel(II) ion with alk-3-en-2-ones or 4-hydroxyalkan-2-ones: formation of an optically active tetra-aza macrocycle, 2139-44
- Synthesis and cryptate complexes of azathia macropolycyclic ligands based on 12-membered N<sub>2</sub>S<sub>2</sub> and 15-membered N<sub>2</sub>S<sub>3</sub> macrocyclic subunits, 2311-8
- Interactions of [Mo(CO)<sub>6</sub>] and [Mo(CO)<sub>3</sub>(C<sub>6</sub>H<sub>5</sub>CH<sub>3</sub>)<sub>3</sub>] with O<sub>2</sub>N<sub>2</sub>- and O<sub>2</sub>N<sub>3</sub>-donor macrocycles and the X-ray crystal structure of tetracarbonyl(6,7,16,17-tetrahydro-15*H*-dibenzo[*e,n*][1,4,8,12]dioxadiazacyclopentadecine)molybdenum-toluene (2/1), 2561-4
- Complexes of lanthanoid salts with macrocyclic ligands. Part 17. Synthesis and crystal and molecular structure of a hydroxide-bridged praseodymium trifluoroacetate complex with 15-crown-5-ether, [Pr<sub>2</sub>(CF<sub>3</sub>CO<sub>2</sub>)<sub>3</sub>(OH)(C<sub>10</sub>H<sub>20</sub>O<sub>5</sub>)<sub>2</sub>]-[Pr<sub>2</sub>(CF<sub>3</sub>CO<sub>2</sub>)<sub>3</sub>], 885-90

**MAGNESIUM**

- Oxoalkyls of rhenium(-V) and (-VI). X-Ray crystal structures of

**MAGNESIUM** (contd)

(Me<sub>4</sub>ReO)<sub>2</sub>Mg(thf)<sub>4</sub>, [(Me<sub>3</sub>SiCH<sub>2</sub>)<sub>4</sub>ReO]<sub>2</sub>Mg(thf)<sub>2</sub>, Re<sub>2</sub>O<sub>3</sub>Me<sub>6</sub>, and Re<sub>2</sub>O<sub>3</sub>(CH<sub>2</sub>SiMe<sub>3</sub>)<sub>6</sub>, 2167–76

**MAGNETISM**

Crystal and molecular structures and magnetic properties of tetrameric copper(II) complexes with 3-hydroxy-5-hydroxymethyl-4-(4'-hydroxy-4'-phenyl-2'-azabut-1'-en-1'-yl)-2-methylpyridine (H<sub>2</sub>L<sup>3</sup>), [Cu<sub>4</sub>L<sup>3</sup>]<sub>4</sub>·9CH<sub>3</sub>OH and 3-hydroxy-5-hydroxymethyl-4-(4'-hydroxy-3'-methyl-4'-phenyl-2'-azabut-1'-en-1'-yl)-2-methylpyridine (H<sub>2</sub>L<sup>1</sup>), [Cu<sub>4</sub>L<sup>1</sup>]<sub>4</sub>·8CH<sub>3</sub>CH<sub>2</sub>OH: two complexes with ferromagnetic ground states, 315–20

Spectroscopic and magnetic properties of cobalt(II) and nickel(II) clusters obtained from 1-(hydroxymethyl)-3,5-dimethylpyrazole.

X-Ray structure of tetrakis[chloro(μ<sub>3</sub>-3,5-dimethyl-*N*-oxymethylpyrazolato-*N*<sup>2</sup>,μ<sub>3</sub>-*O*)(ethanol)nickel(II)] 737–42

Crystal and molecular structures and magnetic properties of bromo(3-dimethylaminopropan-1-olato)copper(II), chloro(3-dimethylaminopropan-1-olato)copper(II), and (3-diethylaminopropan-1-olato)isocyanatocopper(II), 913–20

Crystal and molecular structures and magnetic properties of four new exchange-coupled copper(II) complexes derived from different 3-*N,N*-dialkylamino-1-propanols and pseudohalogenes, 1243–8

Magnetic behaviour of tetrakis[(2-diethylaminoethanolato)isocyanatocopper(II)], a complex with an antiferromagnetic ground state; the crystal and molecular structure of the triclinic modification, 1909–14

Crystal structures and magnetic properties of binuclear five-coordinate copper(II) complexes with a phenolate bridge and their catalytic functions in multielectron redox reactions, 1945–52

X-Ray crystal structures and magnetic properties of azide-bridged binuclear copper(II) complexes containing the Schiff-base ligand derived from 2-pyridinecarbaldehyde and histamine. Structure-magnetism relationship, 2095–100

Electrical and magnetic properties of K<sub>3</sub>Cu<sub>8</sub>S<sub>6</sub>, 2319–20

Crystal structures and magnetism of binuclear iron(III) complexes with a linear oxo-bridge, [Fe<sub>2</sub>O(bbimae)<sub>2</sub>X<sub>2</sub>][NO<sub>3</sub>]<sub>2</sub> {bbimae = 2-[bis(benzimidazol-2-ylmethyl)amino]ethanol, X = Cl or NCS}, 2375–80

Magnetic and spectroscopic properties of some heterotrinnuclear basic acetates of chromium(III), iron(III), and divalent metal ions, 2509–20

Studies on spin-equilibrium iron(III) complexes. Part 1. Syntheses and magnetic properties of a new family of spin cross-over iron(III) complexes with a unidentate ligand over a wide range of the spectrochemical series and a quinquecoordinate ligand derived from salicylaldehyde and di(3-aminopropyl)amine. X-Ray crystal structure of [4-azaheptamethylene-1,7-bis(salicylideneiminato)](4-methylpyridine)iron(III) tetraphenylborate, 2575–84

Crystal and molecular structure and magnetic properties of linear trimeric copper(II) complexes with predominant ferromagnetic exchange interaction, 2609–14

**MALONIC ACID**

Kinetics and mechanism of the oxidation of substituted malonic acids by the hexachloroiridate(IV) ion, 1683–8

**MALONITRILE**

The chemistry of vitamin B<sub>12</sub>. Part 26. Co-ordination of the malonitrile anion by Co<sup>III</sup> corrinoids: first experimental determination of equilibrium constants for the co-ordination of a tetrahedral carbanion by a transition-metal ion, 1619–22

**MANGANESE**

Binuclear metal complexes. Part 55. Dimanganese(II) and mixed-valence manganese(II,III) complexes of 'strati-bis' Schiff bases with two salen-like donating sites, 59–64

Electron spin resonance spectra of manganese(II) ions in the double-stranded chain polymers CdLX<sub>2</sub> (L = pyridine or methylpyridine; X = Cl or Br), 75–80

The co-ordination chemistry of manganese. Part 14. Synthesis of manganese(II) complexes of tertiary phosphine ligands containing 2-cyanoethyl groups, 135–40

The template synthesis and crystal and molecular structure of a seven-co-ordinate manganese(II) complex with 2,6-diacetylpyridine mono(2-aminobenzoylhydrazone), 215–8

Photochemistry of manganese porphyrins. Part 9. Redox reactions photosensitised by diamagnetic metalloporphyrins, 503–10

Difluorophosphate complexes of chromium, manganese, iron, cobalt, and nickel, 707–10

The addition of protic acids to [Mn<sub>2</sub>(CO)<sub>5</sub>(Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>)<sub>2</sub>] to give bridging hydrido-compounds, 743–8

Alkyl, hydrido, and tetrahydroaluminato complexes of manganese with 1,2-bis(dimethylphosphino)ethane (dmpe). X-Ray crystal structures of Mn<sub>2</sub>(μ-C<sub>6</sub>H<sub>11</sub>)<sub>2</sub>(C<sub>6</sub>H<sub>11</sub>)<sub>2</sub>(μ-dmpe), (dmpe)<sub>2</sub>Mn(μ-H)<sub>2</sub>AlH(μ-H), AlH(μ-H), Mn(dmpe)<sub>2</sub>, and

Li<sub>4</sub>{MnH(C<sub>2</sub>H<sub>4</sub>)[CH<sub>2</sub>(Me)PCH<sub>2</sub>CH<sub>2</sub>PMe<sub>2</sub>]<sub>2</sub>}<sub>2</sub>·2Et<sub>2</sub>O, 921–30

Reduction-oxidation properties of organotransition-metal complexes. Part 21. Synthesis and X-ray structural characterisation of the redox-related pair of cyclohexadienyl complexes [Mn(CO)(dppe)(η<sup>5</sup>-C<sub>6</sub>H<sub>6</sub>Ph)] and [Mn(CO)(dppe)(η<sup>5</sup>-C<sub>6</sub>H<sub>6</sub>Ph)][PF<sub>6</sub>]<sub>2</sub>·0.5CH<sub>2</sub>Cl<sub>2</sub>, 1019–26

Water photolysis. Part 1. The photolysis of co-ordinated water in [MnL(H<sub>2</sub>O)<sub>2</sub>][ClO<sub>4</sub>]<sub>2</sub> (L = dianion of tetradentate O<sub>2</sub>N<sub>2</sub>-donor Schiff bases). A model for the manganese site in photosystem II of green plant photosynthesis, 1391–8

Potentiometric study of the complex-formation equilibria of manganese(II), cobalt(II), nickel(II), copper(II), and zinc(II) with ethylenediamine-*N*-acetic acid, 1605–8

Addition of proton and boron trifluoride at terminal and bridging cyano-ligands in dinuclear manganese compounds, 1609–12

Sulphur-containing metal complexes. Part 14. Reactions of carbene anions with carbon disulphide or carbon diselenide, 1963–6

Bimetallic systems. Part 13. Platinum-manganese carbonyl complexes containing bridging Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>(dppm) ligands: crystal structure of [(OC)<sub>3</sub>Mn(μ-dppm)<sub>2</sub>PtH(Br)]BF<sub>4</sub>, 2131–8

On the synthesis of dimethylphenylphosphine complexes of manganese(II) halides, 2203–4

Investigation into aroylhydrazones as chelating agents. Part 7. Synthesis and spectroscopic characterization of complexes of Mn<sup>II</sup>, Co<sup>II</sup>, Ni<sup>II</sup>, Cu<sup>II</sup>, and Zn<sup>II</sup> with 2,6-diacetylpyridine bis(2-aminobenzoylhydrazone) and X-ray structure of chloro[2,6-diacetylpyridine bis(2-aminobenzoylhydrazone)](methanol)manganese(II) chloride monohydrate, 2387–92

The co-ordination of small molecules by manganese(II) phosphine complexes. Part 3. The dependence on the nature of the halogen in [MnX<sub>2</sub>(PR<sub>3</sub>)<sub>3</sub>] (X = Cl, Br, or I; R<sub>3</sub> = PhMe<sub>2</sub>, PhEt<sub>2</sub>, PhPr<sup>n</sup>, PhBu<sup>n</sup>, PhBu<sup>1</sup>, Pr<sup>n</sup>, Bu<sup>n</sup>, or Ph<sub>3</sub>) on adduct formation with sulphur dioxide in the solid state and in tetrahydrofuran solution, 2661–4

He I and He II photoelectron spectra of open-chain pentadienyl complexes of manganese and rhenium, 2677–82

**MASS SPECTROMETRY**

A kinetic study of the gas-phase thermolysis of hexaborane(10), 541–8

A photoelectron spectroscopic study of di-*t*-butylphosphazene, 879–84

Mass spectrometric studies on cyclo- and poly-phosphazenes. Part 2. Oligomerization of hexa(aryloxy)cyclotriphosphazatrienes, 1547–54

**MATRIX**

Characterisation of chromium(VI) oxide tetrafluoride, CrOF<sub>4</sub>, and caesium pentafluoro-oxochromate(VI) Cs[CrOF<sub>5</sub>], 529–34

Photochemistry of dicarbonyl(η<sup>5</sup>-cyclopentadienyl)-methyl- and -ethyl-iron and -ruthenium complexes in solutions at –30 °C and in frozen gas matrices at 12 K, 1365–74

Spectroscopic studies on the higher binary fluorides of chromium: CrF<sub>4</sub>, CrF<sub>5</sub>, and CrF<sub>6</sub>, both in the solid state and isolated in inert gas matrices, 1443–50

**M.C.D.**

Magnetic circular dichroism spectra of tris-chelate complexes of 2,2'-bipyridyl and 1,10-phenanthroline with iron(II), ruthenium(II), and osmium(II) at 4.2 K, 1781–8

**MECHANISM**

Reaction of bis-μ-diethylphosphido-bis(tetracarboxylmetal) (*M*–*M*) (*M* = Cr or W) with tri-*n*-butylphosphine: kinetics and mechanism of a reaction involving seven-co-ordinate complexes, 91–8

Studies of phosphazenes. Part 21. Associative and dissociative pathways in the aminolysis reactions of halogenocyclotriphosphazenes, 285–90

Ligand substitution on (*N,N*-dimethylformamide)[2,2',2''-tri(*N,N*-dimethylamino)triethylamine]cobalt(II), 413–6

Proton exchange and base hydrolysis of *syn,anti*-cis-dichloro(1,4,7,10-tetra-azacyclododecane)cobalt(III) cations, 475–8

Complexes of the platinum metals. Part 24. The role of dioxygen in the reactions of trifluoroacetic acid with the rhodium and iridium nitrosyls [M(NO)(PPh<sub>3</sub>)<sub>3</sub>], 617–20

Kinetics and mechanism of single electron oxidations of the

**MECHANISM** (contd)

- tervalent uranium ion,  $U^{3+}$  (aq), by free radicals in aqueous solutions, 641–4
- Solvent dependence of the stereochemistry of base-catalysed solvolysis of *trans*-[Co(NH<sub>3</sub>)<sub>4</sub>(<sup>15</sup>NH<sub>3</sub>)X]<sup>3+/2+</sup> ions in dipolar aprotic solvents, 659–62
- Displacement of pyridine-2-methanol from dichloro(pyridine-2-methanolato)gold(III) in acidic solution. Ring opening at oxygen, 731–6
- Mechanism of addition of aryltrimethyl-silanes and -stannanes to tricarbonyl(cyclohexadienyl)ruthenium(II) cation, 1049–52
- Reactions of cobalt(II) protoporphyrin IX dimethyl ester, [Co<sup>II</sup>P], and [Co<sup>III</sup>P(Cl)] in co-ordinating aliphatic alcohols, 1095–102
- A mechanistic study on complexes of type *mer*-[Cr(CO)<sub>3</sub>(η<sup>2</sup>-L-L)(σ-L-L)] (where L-L = Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>, Ph<sub>2</sub>PNHPPH<sub>2</sub>, or Ph<sub>2</sub>PNMePPh<sub>2</sub>) using spectroscopic and convolutive electrochemical techniques, 1213–22
- From diarylruthenium complexes to *ortho*-metallated ketones: a mechanistic and crystal structure study, 1235–42
- Electron-transfer reactions in nitrogen fixation. Part 1. The electro-synthesis of dinitrogen, hydride, isocyanide, and carbonyl complexes of molybdenum: intermediates, mechanisms, and energetics, 1255–64
- Kinetic studies of oxidative dealkylation of alkylcobalamins by hexachloroplatinate(IV), 1375–80
- Steric changes at labelled NH<sub>2</sub> sites during the base-catalysed ammoniation of the *trans*-azido(dimethyl sulphoxide)bis(ethylenediamine)cobalt(III) ion, 1495–500
- The chemistry of vitamin B<sub>12</sub>. Part 25. Mechanism of the β-elimination of olefins from alkylcorrinoids; evidence for an initial homolytic fission of the Co–C bond, 1613–8
- Kinetics and mechanism of the reductions of tris(oxalato)cobaltate(III) ion by ruthenium(II) species in aqueous solution, 1665–8
- Kinetics and mechanism of the oxidation of substituted malonic acids by the hexachloroiridate(IV) ion, 1683–8
- The mechanisms of the reactions between hydrido-complexes and diazonium salts. Part 1. The reactions of *trans*-[PtH(Cl)(PEt<sub>3</sub>)<sub>2</sub>], 2059–66
- The mechanisms of the reactions between hydrido-complexes and diazonium salts. Part 2. The reactions of *cis,mer*-[RhHCl<sub>2</sub>(PEtPh<sub>2</sub>)<sub>3</sub>], 2067–78
- Steric changes at labelled NH<sub>2</sub> sites during the base-catalysed ammoniation of the *trans*-azido(dimethyl sulphoxide)bis(ethylenediamine)cobalt(III) ion, 2223–4
- Preparation and characterisation of 2,2'-bipyridine-4,4'-disulphonic and -5-sulphonic acids and their ruthenium(II) complexes. Excited-state properties and excited-state electron-transfer reactions of ruthenium(II) complexes containing 2,2'-bipyridine-4,4'-disulphonic acid or 2,2'-bipyridine-4,4'-dicarboxylic acid, 2247–62
- A mechanistic study of the reaction of iron(III) porphyrins with imidazoles. Hydrogen bonding by the propionic acid side chains in hemin chloride, 2269–76
- Studies of phosphazenes. Part 21. Associative and dissociative pathways in the aminolysis reactions of halogenocyclotriphosphazenes (1985, 285), 2459–60
- Reactions of metal ions with triketones. Part 2. Kinetics and mechanisms of the reactions of nickel(II) and cobalt(II) with heptane-2,4,6-trione in methanol-water (70:30 v/v), 2565–70
- Kinetics and mechanism of electron-transfer reactions of bismuth(V) in aqueous acidic perchlorate-fluoride media. Part 1. Oxidation of hypophosphorous acid, 2571–4
- Kinetics and mechanisms of complex formation of gallium(III) and indium(III). The reactions with 4-(2-pyridylazo)resorcinol in water and other mixed solvents, 2615–22
- Kinetics and mechanism of *ortho*-palladation of ring-substituted *N,N*-dimethylbenzylamines, 2629–38

**MERCURY**

- Synthesis, solution structure, and halide addition compounds of bis(dicyclohexylphosphinothio)mercury(II), 223–4
- The structure of pentachlorocyclopentadienylmercury(II) in the solid state and in solution; the effect of X-ray absorption and crystal decay on molecular geometry parameters, 471–4
- Spectrochemistry of solutions. Part 16. A Raman spectroscopic study of the complexation of mercury(II) by cyanide ligands in liquid ammonia at 293 K, 663–8
- Mercurated and tellurated Schiff bases and phenylhydrazones, 821–6

- Preparation and crystal structure of Na<sub>4</sub>[Hg<sub>4</sub>(μ-Cl)<sub>4</sub>{P(O)(OEt)<sub>2</sub>}]<sub>8</sub>·6H<sub>2</sub>O, 1061–4
- Thermochemical data for adducts of zinc, cadmium, and mercury halides with hexamethylphosphoramide, 1103–6
- Structure and solvation of mercury(II) iodide, bromide, and chloride in pyridine solution; refinement of the crystal structure of diiodobis(pyridine)mercury(II), [HgI<sub>2</sub>(py)<sub>2</sub>], 1597–604
- Crystal structure of tris(methylmercurio)sulphonium perchlorate, 2457–8

**MERCURY-199**

- Synthesis, solution structure, and halide addition compounds of bis(dicyclohexylphosphinothio)mercury(II), 223–4

**METALLATION**

- Metallation of 2-ethenylpyridine at triosmium clusters: X-ray crystal structures of the open trinuclear clusters [Os<sub>3</sub>H(CO)<sub>9</sub>L(NC<sub>5</sub>H<sub>4</sub>CH=CH)] (L = CO or PMe<sub>2</sub>Ph), 85–90

**METALLEPINE**

- Axially asymmetric metal alkyls. Part 3. Chemical, electrochemical, and structural studies of group 5A *d*<sup>0,1,2</sup> metallepines [M{(2-CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>}(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>]<sup>z</sup> (M = Nb or Ta; z = 1–, 0, or 1+); synthesis of [Nb{2-CH<sub>2</sub>(C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>Me-2'}X(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>] (X = Cl or CO) and [(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>ClV{(2-CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>}]<sub>2</sub>, and electrochemistry of [M(CH<sub>2</sub>Ph)<sub>2-*n*</sub>Cl<sub>*n*</sub>(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>] (n = 0, M = Nb, or Ta; n = 1, M = V), 1747–60

**METHANOL**

- Selective conversion of CO into methanol at ordinary temperature. Part 4. Activation by iron(II), iron(III), and chromium(III) complexes, 2499–504

**METHYL**

- Determination of the molecular structures and conformations of methylbis(methylsilyl)amine and bis(dimethylsilyl)methylamine in the gas phase by electron diffraction, 191–8
- The preparation and co-ordination chemistry of 2,2':6',2'-terpyridine macrocycles. Part 4. Structural characterisation of an intermediate in a transient template reaction, 333–6
- Static and dynamic nuclear magnetic resonance studies of complexes of trimethylplatinum(IV) halides with olefinic thio- and seleno-ethers. X-Ray crystal structures of [PtXMe<sub>3</sub>(MeSeCH=CHSeMe)] (X = Cl or I), 345–54
- X-Ray crystal structures and properties of tris(tetrathiafulvalenium) tetrachlorodimethylstannate(IV) and tetrathiafulvalenium trichlorodimethylstannate (IV), 465–70
- Mononuclear η<sup>6</sup>-*p*-cymeneosmium(II) complexes and their reactions with AlMe<sub>3</sub> and other methylating reagents, 573–8
- Isolated CH stretching frequencies, methyl group geometry, and methyl CH bond lengths and strengths in tricarbonyl(η<sup>5</sup>-cyclopentadienyl)methylchromium(II), -molybdenum(II), and -tungsten(II), 1207–12
- The crystal structure of diaquadichlorodimethyltin(IV)-purine (1/4), 1271–4
- Synthesis and properties of the divalent 1,2-bis(dimethylphosphino)ethane (dmpe) complexes MCl<sub>2</sub>(dmpe)<sub>2</sub> and MMe<sub>2</sub>(dmpe)<sub>2</sub> (M = Ti, V, Cr, Mn, or Fe). X-Ray crystal structures of MCl<sub>2</sub>(dmpe)<sub>2</sub> (M = Ti, V, or Cr), MnBr<sub>2</sub>(dmpe)<sub>2</sub>, TiMe<sub>1.3</sub>Cl<sub>0.7</sub>(dmpe)<sub>2</sub>, and CrMe<sub>2</sub>(dmpe)<sub>2</sub>, 1339–48
- Photochemistry of dicarbonyl(η<sup>5</sup>-cyclopentadienyl)-methyl- and -ethyl-iron and -ruthenium complexes in solutions at –30 °C and in frozen gas matrices at 12 K, 1365–74
- Bimetallic systems. Part 11. Heterobimetallic and unsymmetrical diplatinum complexes from *cis*-[PtR<sub>2</sub>(dppm)-P]<sub>2</sub> (dppm = Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>; R = Me, 1-naphthyl, or C<sub>6</sub>H<sub>4</sub>Me-*o*); crystal structure of [(C<sub>6</sub>H<sub>4</sub>Me-*o*)<sub>2</sub>Pt(μ-dppm)<sub>2</sub>PtMe<sub>2</sub>], 1677–82
- Complexes of organoaluminium compounds. Part 13. Preparation and nuclear magnetic resonance spectra of the arylamido-compounds AlMe<sub>2</sub>(NHR') (R' = Ph, C<sub>6</sub>H<sub>4</sub>Me-*o*, C<sub>6</sub>H<sub>4</sub>Me-*p*, C<sub>6</sub>H<sub>3</sub>Me<sub>2</sub>-2,6) and the imido-compounds AlMe(NR'). Crystal and molecular structures of [AlMe<sub>2</sub>(NHC<sub>6</sub>H<sub>4</sub>Me-*o*)]<sub>2</sub> and [AlMe(NPh)]<sub>6</sub>, 1929–34
- Trimethylphosphine as a reactive solvent: synthesis, crystal structures, and reactions of [Ta(PMe<sub>3</sub>)<sub>3</sub>(η<sup>2</sup>-CH<sub>2</sub>PMe<sub>2</sub>)(η<sup>2</sup>-CHPMe<sub>2</sub>)] and [W(PMe<sub>3</sub>)<sub>4</sub>(η<sup>2</sup>-CH<sub>2</sub>PMe<sub>2</sub>H)] and related studies, 2025–36
- Oxoalkyls of rhenium(-V) and (-VI). X-Ray crystal structures of (Me<sub>4</sub>ReO)<sub>3</sub>Mg(thf)<sub>4</sub>, [(Me<sub>3</sub>SiCH<sub>2</sub>)<sub>4</sub>ReO]<sub>2</sub>Mg(thf)<sub>2</sub>, Re<sub>2</sub>O<sub>3</sub>Me<sub>6</sub>, and Re<sub>2</sub>O<sub>3</sub>(CH<sub>2</sub>SiMe<sub>3</sub>)<sub>6</sub>, 2167–76
- Methyltin hydrides in fluorosulphuric acid, 2671–6
- A novel pentameric hydrolysis product of SnMe<sub>2</sub>Cl<sub>2</sub>: crystal and molecular structure of [NH<sub>4</sub>Et<sub>3</sub>][SnMe<sub>2</sub>Cl<sub>2</sub>O<sub>3</sub>], 2683–6

**METHYLATION**

Mononuclear  $\eta^6$ -*p*-cymeneosmium(II) complexes and their reactions with  $\text{Al}_2\text{Me}_6$  and other methylating reagents, 573–8

**METHYLENE**

Chemistry of the unsaturated cluster compound  $[\text{Os}_3\text{Pt}(\mu\text{-H})_2(\text{CO})_{10}\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}]$ ; X-ray crystal structures of  $[\text{Os}_3\text{Pt}(\mu\text{-H})_2(\text{CO})_{10}\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}]$ ,  $[\text{Os}_3\text{Pt}(\mu\text{-H})_4(\text{CO})_{10}\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}]$ , and  $[\text{Os}_3\text{Pt}(\mu\text{-H})_2(\text{CO})_{10}\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}]$  (two isomers), 177–90

The syntheses and characterisation of, and the determination of  $^1J(^{103}\text{Rh}\text{-}^{103}\text{Rh})$  in  $(\eta^5\text{-C}_5\text{Me}_5)_2\text{Rh}_2(\mu\text{-CH}_2)_2\{\mu\text{-CH}_2\text{CR}(\text{CH}_2\text{CR}=\text{CH}_2)\text{CH}_2\}$  (R = H or Me) and  $[(\eta^5\text{-C}_5\text{Me}_5)_2\text{Rh}_2(\mu\text{-CH}_2)_2\{\mu\text{-Ph}_2\text{P}(\text{CH}_2)_n\text{PPh}_2\}]^{2+}$  ( $n = 1$  or  $2$ ), 1555–60

**METHYLENEAMINO**

The reaction of  $[\text{Os}_3(\mu\text{-H})_2(\text{CO})_9\text{L}]$  (L = CO or  $\text{PEt}_3$ ) with dimethylcyanamide,  $\text{Me}_2\text{NCN}$ : X-Ray crystal structure of  $[\text{Os}_3(\mu\text{-H})(\mu\text{-NCHNMe}_2)(\text{CO})_{10}]$  and the reactions of this complex with acids, 1355–60

**METHYLENEDI-IMINE**

Preparation and crystal structure of  $[\text{AsPh}_4]_2[(\text{WCl}_5)_2\{\mu\text{-NC}(\text{CF}_3)_2\text{N}\}]$ , 2205–8

**METHYLMETHYLIDYNE**

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 33. Reactions of  $[\text{W}(\equiv\text{CMe})(\text{CO})_2(\eta\text{-C}_5\text{H}_5)]$  with the dimetal compounds  $[\text{MRh}(\mu\text{-CO})_2(\eta\text{-C}_5\text{Me}_5)_2]$  (M = Co or Rh); X-ray crystal structure of  $[\text{Rh}_2\text{W}(\mu\text{-CO})(\mu_3\text{-CMe})(\text{CO})_2(\eta\text{-C}_5\text{H}_5)(\eta\text{-C}_5\text{Me}_5)_2]$ , 1315–22

**METHYLPYRIDINE**

Lewis-base adducts of Group 1B metal(I) compounds. Part 11. Synthesis and crystal structure of adducts of silver(I) bromide with monomethyl-substituted pyridine bases, 111–6

Lewis-base adducts of Group 1B metal(I) compounds. Part 12. Structural studies of some bis(methyl-substituted pyridine)-copper(I) and -silver(I) nitrates and perchlorates, 117–24

**METHYLSILYL**

Determination of the molecular structures and conformations of methylbis(methylsilyl)amine and bis(dimethylsilyl)methylamine in the gas phase by electron diffraction, 191–8

**MICROWAVE**

Determination of the molecular structure of difluorophosphine sulphide by the combined analysis of data from electron diffraction, microwave spectroscopy, and liquid crystal nuclear magnetic resonance spectroscopy, 755–60

**MIXED VALENCE**

Binuclear metal complexes. Part 55. Dimanganese(II) and mixed-valence manganese(II,III) complexes of 'strati-bis' Schiff bases with two salen-like donating sites, 59–64

Sulphur ligand-metal complexes. Part 16. Copper complexes of thioethers and the single-crystal X-ray structure of the polymeric mixed-valence complex, penta- $\mu$ -chloro-tris- $\mu$ -tetrahydrothiophene-tetracopper(II,III), 151–8

Molecular structure and solid-state properties of the two-dimensional conducting mixed-valence complex  $[\text{NBu}_4]_{0.29}[\text{Ni}(\text{dmit})_2]$  and the neutral  $[\text{Ni}(\text{dmit})_2]$  ( $\text{H}_2\text{dmit} = 4,5\text{-dimercapto-1,3-dithiole-2-thione}$ ); members of an electron-transfer series, 783–94

Palladium(II,IV) mixed-valence complexes of 1,2-diaminoethane, 1,3-diaminopropane, and diethylenetriamine: syntheses, electronic, infrared, Raman, and resonance Raman spectra and X-ray studies, 815–20

Synthesis, spectroscopy, and structure of the mixed-valence complexes  $[\text{Pt}^{\text{II}}(\text{en})_2][\text{Pt}^{\text{IV}}(\text{en})_2\text{X}_2][\text{Pt}^{\text{III}}_2(\text{H}_2\text{P}_2\text{O}_5)_4\text{X}_2]$  (en = 1,2-diaminoethane, X = Br or I), 579–86

**MNDO**

Structure and relative energies of some nitrogen-containing radical cations by MNDO calculation, 1915–22

**MOLYBDENUM**

Hexakis(trimethylphosphine)molybdenum chemistry: dinitrogen, ethylene, butadiene,  $\eta$ -cyclopentadienyl, and related derivatives, 423–34

Reactions of co-ordinated ligands. Part 33. Mononuclear  $\eta^2$ -vinyl complexes: synthesis, structure, and reactivity, 435–50

Tin-molybdenum oxides. A study by X-ray diffraction, Mössbauer spectroscopy, and electron spin resonance, 451–4

Catalytic air oxidation of benzoin in the presence of dioxomolybdenum(VI) complexes with sulphur chelate ligands, 635–40

Studies on transition-metal cyano-complexes. Part 4. Cyanide

hydrate complexes of Groups 6A and 8, 717–22

Bimetallic systems. Part 9. The synthesis of and nuclear magnetic resonance studies on 10-membered ring complexes of type  $[(\text{OC})_2\text{M}^1(\mu\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)_2\text{M}^2(\text{CO})_4]$  ( $\text{M}^1, \text{M}^2 = \text{Cr, Mo, or W}$ ), 1009–14

Tetrachlorobis(tetrahydrofuran)molybdate(III), a new intermediate for the synthesis of molybdenum(III) complexes: preparation and crystal structure, 1069–72

Isolated CH stretching frequencies, methyl group geometry, and methyl CH bond lengths and strengths in tricarbonyl( $\eta^5$ -cyclopentadienyl)methylchromium(II), -molybdenum(II), and -tungsten(II), 1207–12

Electrochemical and chemical properties of di-iodonitrosyl[tris(3,5-dimethylpyrazolyl)borato]molybdenum,  $[\text{Mo}\{\text{HB}(\text{Me}_2\text{pz})_3\}(\text{NO})\text{I}_2]$ , and related complexes, 1249–54

Electron-transfer reactions in nitrogen fixation. Part 1. The electrosynthesis of dinitrogen, hydride, isocyanide, and carbonyl complexes of molybdenum: intermediates, mechanisms, and energetics, 1255–64

Preparation and properties of *cis*- $[\text{W}(\text{N}_2)_2(\text{Ph}_2\text{PCH}_2\text{PPh}_2)_2]$  and *trans*- $[\text{M}(\text{N}_2)_2(\text{Ph}_2\text{PCH}=\text{CHPPh}_2)_2]$  (M = Mo or W), and the crystal structure of *cis*- $[\text{W}(\text{N}_2)_2(\text{PMe}_2\text{Ph})_4]$ , 1523–6

Pyramidal inversions and 1,2-metal shifts in pentacarbonylchromium, -molybdenum, and -tungsten derivatives of dialkyl disulphides and dialkyl diselenides. A nuclear magnetic resonance investigation, 1561–8

Dynamic nuclear magnetic resonance study of Group 6 metal pentacarbonyl complexes. Pyramidal inversion and 1,2-metal

shifts in the complexes  $[\text{M}(\text{CO})_5(\text{Me}_2\text{CCH}_2\text{EECH}_2)]$  (M = Cr, Mo, or W; E = S or Se), 1569–76

Studies on cyclic bis( $\eta^5$ : $\sigma$ -2-cyclopentadienylidene-ethyl)- and bis( $\eta^5$ : $\sigma$ -4-cyclopentadienylidenebutyl)-molybdenum compounds, 1585–90

Formation of oxidized molybdenum-bearing ferrites,  $\text{Fe}_{2.95-x}\text{Mo}_x\text{O}_4$  ( $x = 0.03\text{--}0.30$ ) in aqueous suspensions by air oxidation and valence state of molybdenum ions in the lattice, 1713–6

The kinetics and stoichiometry of silver(III) reduction by the octacyano-complexes of molybdenum(IV) and tungsten(IV), 1789–94

Reactions of hydride reagents with alkylmolybdenum carbonyl complexes. Reaction of  $\text{LiBHEt}_3$  with  $[\text{MoMe}(\text{CO})_3(\eta\text{-C}_5\text{H}_5)]$ , formation of an anionic acetaldehyde complex, and a stoichiometric cycle for the synthesis of acetaldehyde, 1815–20

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 36. Reactions of the dimetal compounds  $[\text{ReM}(\equiv\text{CC}_6\text{H}_4\text{Me-4})(\text{CO})_9]$  (M = Cr, Mo, or W) with octacarbonyldicobalt; crystal structures of  $[\text{Co}_2\text{WRe}(\mu_3\text{-CC}_6\text{H}_4\text{Me-4})(\text{CO})_{15}]$  and  $[\text{Co}_2\text{Re}(\mu_3\text{-CC}_6\text{H}_4\text{Me-4})(\text{CO})_{10}]$ , 2001–8

Trimethylphosphine as a reactive solvent: synthesis, crystal structures, and reactions of  $[\text{Ta}(\text{PMe}_3)_3(\eta^2\text{-CH}_2\text{PMe}_2)(\eta^2\text{-CHPMe}_2)]$  and  $[\text{W}(\text{PMe}_3)_4(\eta^2\text{-CH}_2\text{PMe}_2)\text{H}]$  and related studies, 2025–36

Synthesis, structure, and bonding of fulvene complexes of titanium, molybdenum, and tungsten, 2037–50

Reactivity of  $[\text{NBu}_4]_2[\text{Mo}_2\text{Br}_6]$  with several uni- and poly-dentate phosphines. X-Ray structure of  $[\text{NBu}_4][\text{MoBr}_4(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)]$ , 2263–8

Nitrogen-15 nuclear magnetic resonance relaxation mechanisms in dinitrogen complexes of molybdenum, tungsten, rhenium, and osmium, 2473–8

Interactions of  $[\text{Mo}(\text{CO})_6]$  and  $[\text{Mo}(\text{CO})_3(\text{C}_6\text{H}_5\text{CH}_3)]$  with  $\text{O}_2\text{N}_2$ - and  $\text{O}_2\text{N}_3$ -donor macrocycles and the X-ray crystal structure of tetracarbonyl(6,7,16,17-tetrahydro-15*H*-dibenzol[*e,n*][1,4,8,12]dioxadiazacyclopentadecine)molybdenum-toluene (2/1), 2561–4

Photochemical studies of the alkylammonium molybdates. Part 7.

Octahedral sites for multi-electron reduction of  $[\text{Mo}_6\text{O}_{26}(\text{MoO}_4)_2]^{8-}$ , 2585–90

Complexes of molybdenum-(II) and -(IV) and tungsten(II) with sterically hindered thiolate ligands. Synthesis, reactivity, and X-ray crystal structures of  $[\text{PPh}_4][\text{Mo}(\text{SC}_6\text{H}_2\text{Pr}_3\text{-2,4,6})_3(\text{CO})_2]$  and  $[\text{Mo}(\text{NNPh})(\text{SC}_6\text{H}_2\text{Pr}_3\text{-2,4,6})_3(\text{NMe})]$ , 2639–46

Molybdenum, rhenium, and tungsten complexes with bi- and tridentate phosphinothiolato-ligands; structures of  $[\text{Mo}\{\text{PhP}(\text{CH}_2\text{CH}_2\text{S})_2\}_2]$  and  $[\text{Mo}(\text{NNMe}_2)\{\text{PhP}(\text{CH}_2\text{CH}_2\text{S})_2\}_2]$ , 2647–54

**MORPHOLINIO**

Reaction of bis(morpholiniothiocarbonyl) disulphide with iodine. Existence of a 1:1 charge-transfer precursory adduct in an oxidation reaction. Isolation and crystal structure of bis[3,5-di(*N*-morpholinio)-1,2,4-trithiolane] hexadecaoidide, 1349-54

**MORPHOLINOTHIOCARBONYL**

Reaction of bis(morpholiniothiocarbonyl) disulphide with iodine. Existence of a 1:1 charge-transfer precursory adduct in an oxidation reaction. Isolation and crystal structure of bis[3,5-di(*N*-morpholinio)-1,2,4-trithiolane] hexadecaoidide, 1349-54

**MÖSSBAUER**

Tin-119 Mössbauer and nuclear magnetic resonance studies of organotin compounds. Part 1. Sterically crowded tetraorganotin derivatives, 169-76

Tin-molybdenum oxides. A study by *X*-ray diffraction, Mössbauer spectroscopy, and electron spin resonance, 451-4

The red form of bis(1,10-phenanthroline)dithiocyanatoiron(II), 991-6

A tin-119 Mössbauer study of tin(II) fluoride, 1275-6

Mössbauer study of the *cis-trans* isomers of tin(IV) complexes.

Some considerations about the sign of the electric-field gradient, 1281-4

Organotin biocides. Part 2. Variable-temperature <sup>119</sup>Sn Mössbauer study of phenyl- and cyclohexyl-tin compounds, 1417-24

Magnetic exchange interactions in perovskite solid solutions. Part 5. The unusual defect structure of SrFeO<sub>3-y</sub>, 1455-70

Iodine-127 Mössbauer spectroscopy of copper(I) iodide-phosphine adducts, 1727-30

Methyltin hydrides in fluorosulphuric acid, 2671-6

**NEPTUNIUM**

Actinide structural studies. Part 7. The crystal and molecular structures of (2,2'-bipyridyl)dinitratodioxo-uranium(VI) and -neptunium(VI), and diacetato(2,2'-bipyridyl)dioxo-uranium(VI) and -neptunium(VI), 1001-8

**NICKEL**

Enantioselectivity of nickel(II) and copper(II) complexes of Schiff bases derived from amino acids and (*S*)-*o*-[(*N*-benzylpropyl)amino]acetophenone or (*S*)-*o*-[(*N*-benzylpropyl)amino]benzaldehyde. Crystal and molecular structures of [Ni{(S)-bap-(S)-Val}] and [Cu{(S)-bap-(S)-Val}], 17-26

Preparation of 11-(2'-dimethylaminoethyl)-1,4,7-trimethyl-1,4,7,11-tetra-azacyclotetradecane, and characterisation of its nickel(II), copper(II), and zinc(II) complexes, 219-22

Chlorine trioxide, Cl<sub>2</sub>O<sub>6</sub>, a most efficient perchlorating reagent in new syntheses of anhydrous metal perchlorates, chloryl and nitryl perchloratometalates of cobalt(II), nickel(II), and copper(II). Reactivity of chlorine trioxide with anhydrous or hydrated chlorides and nitrates, 297-306

Comparison between the bis(2-thiopyridine *N*-oxide) derivatives of Cu<sup>II</sup> and Ni<sup>II</sup>: an electron spin resonance study, 379-82

Macrocyclic polyphosphane ligands. Iron(II), cobalt(II), and nickel(II) complexes of (4*RS*,7*RS*,13*SR*,16*SR*)-tetraphenyl-1,10-dipropyl-1,10-diaza-4,7,13,16-tetraphosphacyclo-octadecane: crystal structures of their tetraphenylborate derivatives, 479-86

Difluorophosphate complexes of chromium, manganese, iron, cobalt, and nickel, 707-10

Spectroscopic and magnetic properties of cobalt(II) and nickel(II) clusters obtained from 1-(hydroxymethyl)-3,5-dimethylpyrazole. *X*-Ray structure of tetrakis[chloro(μ<sub>3</sub>-3,5-dimethyl-*N*-oxymethylpyrazolato-*N*<sup>2</sup>,μ<sub>3</sub>-*O*)(ethanol)nickel(II)] 737-42

Molecular structure and solid-state properties of the two-dimensional conducting mixed-valence complex [NBu<sub>4</sub>]<sub>0.29</sub>[Ni(dmit)<sub>2</sub>] and the neutral [Ni(dmit)<sub>2</sub>] (H<sub>2</sub>dmit = 4,5-dimercapto-1,3-dithiole-2-thione); members of an electron-transfer series, 783-94

Reaction of some aliphatic diamines with four-co-ordinated unsymmetrical ketoenamine copper(II) and nickel(II) complexes, 803-6

Reactions of 6,6'-bis(*nido*-decaboranyl) oxide and 6-hydroxy-*nido*-decaborane with dihalogenobis(phosphine) complexes of nickel, palladium, and platinum, and some related chemistry; nuclear magnetic resonance investigations and the crystal and molecular structures of bis(dimethylphosphine)-di-μ-(2,3,4-η<sup>3</sup>-*nido*-hexaboranyl)-diplatinum(*Pt-Pt*), [Pt<sub>2</sub>(μ-η<sup>3</sup>-B<sub>6</sub>H<sub>9</sub>)(PMe<sub>2</sub>Ph)<sub>2</sub>], and of 2,4-dichloro-1,1-bis(dimethylphenylphosphine)-*closo*-1-nickeladecaborane, [(PhMe<sub>2</sub>P)<sub>2</sub>NiB<sub>9</sub>H<sub>7</sub>Cl<sub>2</sub>], 953-72

Co-ordination chemistry of pyridyl and *N*-methylimidazolyl ketones. Synthetic and *X*-ray structural studies of copper(II),

nickel(II), and dimethylgold(III) complexes, 981-6

Studies on singlet oxygen in aqueous solution. Part 2. Water-soluble square-planar nickel complexes as quenchers, 1147-50

Macrocyclic polyphosphane ligands. Cobalt(II) and nickel(II) complexes of 5*RS*,8*RS*,16*RS*,19*RS*-tetraphenyl-5,8,16,19-tetraphospha-1,12-dithiacyclodocosane (δ-L<sup>1</sup>) and the crystal structure of [Co(δ-L<sup>1</sup>)] [BF<sub>4</sub>]<sub>2</sub>·0.5H<sub>2</sub>O, 1179-82

Some water-soluble Schiff-base complexes of nickel(II): the role of water, 1451-4

Reactions of metal ions with triketones in solution. Part 1.

Formation constants for the systems of heptane-2,4,6-trione, 1-phenylhexane-1,3,5-trione, 1,5-diphenylpentane-1,3,5-trione, and 2,2'-dihydroxybenzophenone with proton, nickel(II), and cobalt(II), 1543-6

Potentiometric study of the complex-formation equilibria of manganese(II), cobalt(II), nickel(II), copper(II), and zinc(II) with ethylenediamine-*N*-acetic acid, 1605-8

Copper(II) salts of metal dithiolates, 1731-2

The stability of nickel(II) complexes of tetra-aza macrocycles, 1877-80

Metal complexes of vitamin B<sub>6</sub> related compounds. Crystal and molecular structures of aqua(5'-phosphopyridoxylidene)glycinate)copper(II) trihydrate and bis(pyridoxylidene)glycinate)nickel(II) hexahydrate, 2051-8

Reactions of tris[(2*S*)-2-(aminomethyl)pyrrolidine]nickel(II) ion with alk-3-en-2-ones or 4-hydroxyalkan-2-ones: formation of an optically active tetra-aza macrocycle, 2139-44

Unidentate *versus* symmetrically and unsymmetrically bidentate nitrate co-ordination in pyrazole-containing chelates. The crystal and molecular structures of (nitrate-*O*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]copper(II) nitrate, (nitrate-*O,O'*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]nickel(II) nitrate, and (nitrate-*O*)(nitrate-*O,O'*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]cadmium(II), 2177-84

Synthesis and *X*-ray crystal structure of the asymmetric trinuclear complex [Ni<sub>3</sub>(μ<sub>3</sub>-S)<sub>2</sub>(H<sub>2</sub>O)(PPh<sub>3</sub>)<sub>5</sub>][PF<sub>6</sub>]<sub>2</sub>, 2209-12

One-electron reduction of nickel(IV) oxime complexes, 2213-6

Synthesis and cryptate complexes of azathia macropolycyclic ligands based on 12-membered N<sub>2</sub>S<sub>2</sub> and 15-membered N<sub>2</sub>S<sub>3</sub> macrocyclic subunits, 2311-8

Reactivity of [NiR(R')L<sub>2</sub>] compounds and the crystal structure of [Ni(C<sub>2</sub>Cl<sub>3</sub>)(C<sub>6</sub>H<sub>2</sub>Me<sub>3</sub>-2,4,6)(PMe<sub>2</sub>Ph)<sub>2</sub>], 2333-42

Investigation into aroylhydrazones as chelating agents. Part 7.

Synthesis and spectroscopic characterization of complexes of Mn<sup>II</sup>, Co<sup>II</sup>, Ni<sup>II</sup>, Cu<sup>II</sup>, and Zn<sup>II</sup> with 2,6-diacetylpyridine bis(2-aminobenzoylhydrazone) and *X*-ray structure of chloro[2,6-diacetylpyridine bis(2-aminobenzoylhydrazone)](methanol)manganese(II) chloride monohydrate, 2387-92

Reactions of metal ions with triketones. Part 2. Kinetics and mechanisms of the reactions of nickel(II) and cobalt(II) with heptane-2,4,6-trione in methanol-water (70:30 v/v), 2565-70

**NIObIUM**

Niobium(IV) sulphidohalides: preparation of Nb<sub>2</sub>X<sub>4</sub>S<sub>3</sub> and Nb<sub>2</sub>X<sub>4</sub>S<sub>n</sub>L[X = Br or Cl; n = 4, L = NCMc, SMe<sub>2</sub>, or tetrahydrothiophene (tht); n = 2, L = PhSCH<sub>2</sub>CH<sub>2</sub>SPh]. Crystal and molecular structure of Nb<sub>2</sub>Cl<sub>4</sub>S<sub>2</sub>·4tht, 417-22

Axially asymmetric metal alkyls. Part 3. Chemical, electrochemical, and structural studies of group 5A d<sup>0,1,2</sup> metallocenes [M{(2-CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>}(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>]<sup>z</sup> (M = Nb or Ta; z = 1-, 0, or 1+); synthesis of [Nb{2-CH<sub>2</sub>(C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>Me-2'}X(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>] (X = Cl or CO) and [(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>CIV]<sub>2</sub>(2-CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>], and electrochemistry of [M(CH<sub>2</sub>Ph)<sub>2</sub>-η-C<sub>10</sub>(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>] (n = 0, M = Nb, or Ta; n = 1, M = V), 1747-60

High-co-ordination-number compounds of niobium and tantalum: Reactions of niobium and tantalum halides and sulphido-halides with sodium diethyldithiocarbamate. The crystal structures of [Nb(S<sub>2</sub>CNEt<sub>2</sub>)<sub>4</sub>]Br, Nb(S<sub>2</sub>CNEt<sub>2</sub>)<sub>3</sub>S, and Ta(S<sub>2</sub>CNEt<sub>2</sub>)<sub>3</sub>(S<sub>2</sub>), 1821-8

New carbonyl derivatives of niobium(I) and tantalum(I), 1989-96

Ion exchange of K<sub>4</sub>Nb<sub>6</sub>O<sub>17</sub>·3H<sub>2</sub>O, 2349-52

**NITRATE**

Lewis-base adducts of Group 1B metal(I) compounds. Part 12.

Structural studies of some bis(methyl-substituted pyridine)-

copper(I) and -silver(I) nitrates and perchlorates, 117-24

The crystal structure and electronic properties of the complex acetatobis(1,10-phenanthroline)copper(II) perchlorate dihydrate, acetatobis(1,10-phenanthroline)copper(II) nitrate dihydrate, and acetatobis(1,10-phenanthroline)zinc(II) tetrafluoroborate

- NITRATE** (contd)  
 dihydrate, 141–50  
 Chemical and structural aspects of silver–triphenylarsine complexes and silver–tin complex salts, 321–32  
 Investigation into diphosphine oxides as ligands in diorganotin(IV) adducts. Part 3. Synthesis and crystal structure of two adducts of dinitratodiphenyltin(IV) with *cis*- and *trans*-1,2-bis(diphenylphosphoryl)ethylene, 487–92  
 Synthesis and characterisation of uranium(IV) nitrate complexes with piperazines, 1985–8  
 Unidentate *versus* symmetrically and unsymmetrically bidentate nitrate co-ordination in pyrazole-containing chelates. The crystal and molecular structures of (nitrate-*O*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]copper(II) nitrate, (nitrate-*O,O'*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]nickel(II) nitrate, and (nitrate-*O*)(nitrate-*O,O'*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]cadmium(II), 2177–84
- NITRIC ACID**  
 Electrochemical studies in  $\text{HNO}_3\text{--N}_2\text{O}_4$  mixtures: corrosion of stainless steel in  $\text{HNO}_3\text{--N}_2\text{O}_4$  mixtures and the effect of inhibitors, 2551–4
- NITRIDE**  
 Rhenium nitrido-, arylimido-, nitrile, and carbonyl complexes with sterically hindered thiolate ligands, 2305–10
- NITRILOTRIETHOXY**  
 Kinetics and mechanism of the equilibration reaction between (2,2',2''-nitriлотriethoxy)nitrosylvanadate(1–) and cyanide. Crystal structures of sodium (2,2',2''-nitriлотriethoxy)nitrosylvanadate(1–) sodium perchlorate tetrahydrate and of barium cyano(2,2',2''-nitriлотriethoxy)nitrosylvanadate(1) pentahydrate, 2493–8
- NITROGEN**  
 Studies of phosphazenes. Part 21. Associative and dissociative pathways in the aminolysis reactions of halogenocyclotriphosphazenes, 285–90  
 Structural and nuclear magnetic resonance studies of short selenium–nitrogen bonds, 565–72  
 Studies of phosphazenes. Part 22. High-field nuclear magnetic resonance investigation of novel isomeric oxophosphazadienes, 1431–4  
 Mass spectrometric studies on cyclo- and poly-phosphazenes. Part 2. Oligomerization of hexa(aryloxy)cyclotriphosphazatrienes, 1547–54  
 Studies of phosphazenes. Part 25. Synthesis, nuclear magnetic resonance spectroscopy, and mode of formation of (aziridino)(triphenylphosphazeny)cyclotriphosphazenes. *X*-ray crystal structure and enzyme-inhibiting activity of  $\text{N}_3\text{P}_3(\text{NPPH}_3)(\text{NC}_2\text{H}_4)_5$ , 1881–90  
 Structure and relative energies of some nitrogen-containing radical cations by MNDO calculation, 1915–22  
 Studies of phosphazenes. Part 21. Associative and dissociative pathways in the aminolysis reactions of halogenocyclotriphosphazenes (1985, 285), 2459–60
- NITROGEN-15**  
 Addition of proton and boron trifluoride at terminal and bridging cyano-ligands in dinuclear manganese compounds, 1609–12  
 Nitrogen-15 nuclear magnetic resonance relaxation mechanisms in dinitrogen complexes of molybdenum, tungsten, rhenium, and osmium, 2473–8
- NITROGEN MONOXIDE**  
 Reactions of bis(cyclopentadienyl)vanadium derivatives with nitrogen mono-oxide and the crystal structure of an oxo-bridged nitrosyl complex of vanadium, 1435–42
- NITROGEN OXIDE**  
 Nitrosoarene complexes of ruthenium and platinum and their reactions with NO and  $\text{NO}^+$ , 401–4  
 Insertion of NO into transition metal–aryl bonds: formation of zirconium complexes containing the  $[\text{ON}(\text{R})\text{NO}]^-$  (R = Ph or *p*- $\text{MeC}_6\text{H}_4$ ) ligand, 405–8
- NITROIMIDAZOLE**  
 Platinum(II) complexes of nitroimidazoles: synthesis, characterisation, and *X*-ray crystal structures of *cis*-dichlorobis[1-(2'-hydroxyethyl)-2-hydroxymethyl-5-nitroimidazole]platinum(II) and *trans*-dichlorobis[1-(2'-hydroxy-3'-methoxypropyl)-2-nitroimidazole]platinum(II), 795–802
- NITROSOARENE**  
 Nitrosoarene complexes of ruthenium and platinum and their reactions with NO and  $\text{NO}^+$ , 401–4
- NITROSOBENZENE**  
 Insertion of carbon dioxide, of  $\text{CO}_2$ -like molecules, and of other unsaturated compounds into the platinum–nitrogen bond of  $[\text{Pt}(\text{PPh}_3)_2(\text{PhNO})]$ , 163–8
- NITROSOHYDROXYLAMIDE**  
 Insertion of NO into transition metal–aryl bonds: formation of zirconium complexes containing the  $[\text{ON}(\text{R})\text{NO}]^-$  (R = Ph or *p*- $\text{MeC}_6\text{H}_4$ ) ligand, 405–8
- NITROSYL**  
 Nitrosoarene complexes of ruthenium and platinum and their reactions with NO and  $\text{NO}^+$ , 401–4  
 Complexes of the platinum metals. Part 23. Synthesis of the nitrosyl carboxylate complexes  $[\text{M}(\text{O}_2\text{CR})_2(\text{NO})(\text{PPh}_3)_2]$  (M = Rh or Ir; R =  $\text{CF}_3$ ,  $\text{C}_2\text{F}_5$ , or  $\text{C}_6\text{F}_5$ ): crystal and molecular structures of the trifluoroacetate derivatives  $[\text{M}(\text{O}_2\text{CCF}_3)_2(\text{NO})(\text{PPh}_3)_2]$ , 611–6  
 Complexes of the platinum metals. Part 24. The role of dioxygen in the reactions of trifluoroacetic acid with the rhodium and iridium nitrosyls  $[\text{M}(\text{NO})(\text{PPh}_3)_3]$ , 617–20  
 Complexes of the platinum metals. Part 25. Reactions of ruthenium and osmium nitrosyls  $[\text{MH}(\text{NO})(\text{PPh}_3)_3]$  and  $[\text{M}(\text{NO})_2(\text{PPh}_3)_2]$  with perfluorocarboxylic acids: *X*-ray crystal structure determination of nitrosyl(trifluoroacetato)-(trifluoroacetohydroximato-*OO'*)bis(triphenylphosphine)osmium(II)–dichloromethane (1/1), 621–8  
 On the effect of cyanide ion on the reaction of pentacyanonitrosylferrate(2–) with cysteine, 1191–4  
 Electrochemical and chemical properties of di-iodonitrosyl[tris(3,5-dimethylpyrazolyl)borato]molybdenum,  $[\text{Mo}\{\text{HB}(\text{Me}_2\text{pz})_3\}(\text{NO})\text{I}_2]$ , and related complexes, 1249–54  
 Reactions of bis(cyclopentadienyl)vanadium derivatives with nitrogen mono-oxide and the crystal structure of an oxo-bridged nitrosyl complex of vanadium, 1435–42  
 Rhenium nitrosyl complexes with simple and with sterically demanding aromatic thiolate ligands: *X*-ray crystal structures of  $[\text{PPh}_4][\text{Re}_2(\text{SC}_6\text{H}_4\text{Me-4})_7(\text{NO})_2]\cdot\text{CH}_2\text{Cl}_2$  and  $[\text{Re}(\text{SC}_6\text{H}_3\text{Pr}^1\text{-2,6})_4(\text{NO})]$ , 1533–42  
 A new reaction of nitrosyl complexes; one-electron reduction of *trans*- $[\text{MX}(\text{NO})\text{L}_4]^{2+}$  [M = Ru or Fe, X = Cl or Br, L = pyridine or *o*-phenylenebis(dimethylarsine)] with hydroxylamine, 1733–4
- Complexes of the platinum metals. Part 30. Fragmentation reactions of rhodium and iridium trichloro- and tribromoacetates, 2113–20  
 Electrophilic nitrosyls: preparation, structure, and reactivity of *cis*-chloronitrosylbis(pyridine-2-carboxylato)ruthenium and related complexes, 2427–32  
 Kinetics and mechanism of the equilibration reaction between (2,2',2''-nitriлотriethoxy)nitrosylvanadate(1–) and cyanide. Crystal structures of sodium (2,2',2''-nitriлотriethoxy)nitrosylvanadate(1–) sodium perchlorate tetrahydrate and of barium cyano(2,2',2''-nitriлотriethoxy)nitrosylvanadate(1) pentahydrate, 2493–8
- N.M.R.**  
 Co-ordinative interactions in chelated complexes of silicon. Part 7. Dynamic nuclear magnetic resonance studies of fluorine exchange at five-co-ordinated silicon, 5–8  
 Tin-119 Mössbauer and nuclear magnetic resonance studies of organotin compounds. Part 1. Sterically crowded tetraorganotin derivatives, 169–76  
 Synthesis, solution structure, and halide addition compounds of bis(dicyclohexylphosphinothio)mercury(II), 223–4  
 Static and dynamic nuclear magnetic resonance studies of complexes of trimethylplatinum(IV) halides with olefinic thio- and seleno-ethers. *X*-Ray crystal structures of  $[\text{PtXMe}_3(\text{MeSeCH}=\text{CHSeMe})]$  (X = Cl or I), 345–54  
 Structural and nuclear magnetic resonance studies of short selenium–nitrogen bonds, 565–72  
 Aluminium-27 and hydrogen-1 nuclear magnetic resonance studies of solutions of aluminium salts in alcohol–chloroform mixtures, 591–6  
 Synthesis, characterization, and structure of the complex  $[\text{FeH}(\text{H}_2\text{BH}_2)\{\text{CH}_2\text{C}(\text{CH}_2\text{PPh}_2)_3\}]$ , 605–10  
 Complexes of the platinum metals. Part 26. Multinuclear nuclear magnetic resonance studies on rhodium(II) carboxylate adducts, 629–34  
 Platinum(II) complexes of nitroimidazoles: synthesis, characterisation, and *X*-ray crystal structures of *cis*-dichlorobis[1-(2'-hydroxyethyl)-2-hydroxymethyl-5-nitroimidazole]platinum(II) and *trans*-dichlorobis[1-(2'-hydroxy-3'-methoxypropyl)-2-nitroimidazole]platinum(II), 795–802



## N.M.R. (contd)

Mercurated and tellurated Schiff bases and phenylhydrazones, 821-6

Lewis-base adducts of group 1B metal(I) compounds. Part 16.

Synthesis, structure, and solid-state phosphorus-31 nuclear magnetic resonance spectra of some novel  $[\text{Cu}_2\text{X}_4\text{L}_4]$  (X = halogen, L = N,P base) 'cubane' clusters, 831-8

Multinuclear nuclear magnetic resonance study of the interaction of some phosphorus(V) compounds with inorganic acids. The protonating abilities of  $\text{HNO}_3$ ,  $\text{MeSO}_3\text{H}$ , and  $\text{HPO}_2\text{F}_2$  towards the phosphoryl group, 865-6

Diastereoisomeric organophosphorus compounds. Part 4. Proton and phosphorus-31 nuclear magnetic resonance spectra of compounds of the type  $[\text{RR}'\text{P}(\text{X})_2\text{Y}]$  and  $[\text{RR}'\text{P}(\text{X})_2\text{Y}(\text{Z})\text{PRR}']$  (R =  $\text{CH}_3$ , R' =  $t\text{-C}_4\text{H}_9$ ) (1984, 2803), 871-2

Reactions of 6,6'-bis(*nido*-decaboranyl) oxide and 6-hydroxy-*nido*-decaborane with dihalogenobis(phosphine) complexes of nickel, palladium, and platinum, and some related chemistry; nuclear magnetic resonance investigations and the crystal and molecular structures of bis(dimethylphosphine)-di- $\mu$ -(2,3,4- $\eta^3$ -*nido*-hexaboranyl)-diplatinum (*Pt-Pt*),  $[\text{Pt}_2(\mu\text{-}\eta^3\text{-B}_6\text{H}_5)_2(\text{PMe}_2\text{Ph})_2]$ , and of 2,4-dichloro-1,1-bis(dimethylphenylphosphine)-*closo*-1-nickeladecaborane,  $[(\text{PhMe}_2\text{P})_2\text{NiB}_{10}\text{H}_7\text{Cl}_2]$ , 953-72

Bimetallic systems. Part 9. The synthesis of and nuclear magnetic resonance studies on 10-membered ring complexes of type  $[(\text{OC})_4\text{M}^1(\mu\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)_2\text{M}^2(\text{CO})_4]$  ( $\text{M}^1, \text{M}^2 = \text{Cr, Mo, or W}$ ), 1009-14

Geometry-dependent complexation effects in carbon-13 nuclear magnetic resonance spectra of tricarbonyl(3-8- $\eta$ -[2.2]paracyclophane)chromium and related complexes, 1065-8

Polyhedral rhenaborane chemistry: crystal and molecular structures of the *nido*-6-rhenadecaborane cluster compounds  $[\text{6,6,6,6}-(\text{PMe}_2\text{Ph})_3\text{H-}n\text{-ido-6-ReB}_9\text{H}_{13}]$  and  $[\text{2}-(\text{PMe}_2\text{Ph})_2\text{6,6,6}-(\text{PMe}_2\text{Ph})_2\text{ClH-}n\text{-ido-6-ReB}_9\text{H}_{12}]$ ; nuclear magnetic resonance parameters of these and other related *nido*-rhenadecaborane cluster species, 1119-30

High-field vanadium-51 and oxygen-17 nuclear magnetic resonance study of peroxovanadates(V), 1173-8

Synthesis, properties, and multinuclear magnetic resonance ( $^1\text{H}$ ,  $^{77}\text{Se}$ , and  $^{195}\text{Pt}$ ) studies on diselenoether complexes of palladium, platinum, and rhodium, 1265-70

Studies of phosphazenes. Part 22. High-field nuclear magnetic resonance investigation of novel isomeric oxophosphazadienes, 1431-4

Steric changes at labelled  $\text{NH}_2$  sites during the base-catalysed ammoniation of the *trans*-azido(dimethyl sulphoxide)bis(ethylenediamine)cobalt(III) ion, 1495-500

Synthetic and nuclear magnetic resonance studies on dialkyl- and diaryl-platinum complexes containing chelating, monodentate, or bridging  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$  ligands, 1501-6

Mono- and di-nuclear rhodium and palladium complexes of macrocyclic ligands containing the 2,6-di(thiomethyl)pyridine sub-unit, 1517-22

The syntheses and characterisation of, and the determination of  $^1J(^{103}\text{Rh}-^{103}\text{Rh})$  in  $[\eta^5\text{-C}_5\text{Me}_5)_2\text{Rh}_2(\mu\text{-CH}_2)_2\{\mu\text{-CH}_2\text{CR}(\text{CH}_2\text{CR}=\text{CH}_2)_2\text{CH}_2\}]$  (R = H or Me) and  $[\eta^5\text{-C}_5\text{Me}_5)_2\text{Rh}_2(\mu\text{-CH}_2)_2\{\mu\text{-Ph}_2\text{P}(\text{CH}_2)_n\text{PPh}_2\}]^{2+}$  ( $n = 1$  or  $2$ ), 1555-60

Pyramidal inversions and 1,2-metal shifts in pentacarbonyl-chromium, -molybdenum, and -tungsten derivatives of dialkyl disulphides and dialkyl diselenides. A nuclear magnetic resonance investigation, 1561-8

Dynamic nuclear magnetic resonance study of Group 6 metal pentacarbonyl complexes. Pyramidal inversion and 1,2-metal shifts in the complexes  $[\text{M}(\text{CO})_5(\text{Me}_2\text{CCH}_2\text{EECH}_2)]$  (M = Cr, Mo, or W; E = S or Se), 1569-76

Addition of proton and boron trifluoride at terminal and bridging cyano-ligands in dinuclear manganese compounds, 1609-12

Studies of 2,5,6,10,8,10-tri- $\mu$ -hydro-nona-hydro-*nido*-nonaborate(1-),  $[\text{B}_9\text{H}_{12}]^-$ : preparation, crystal and molecular structure, nuclear magnetic resonance spectra, electrochemistry, and reactions, 1645-54

Geometry-dependent carbon-13 chemical shifts in ( $\eta^6$ -[2.2]cyclophane)( $\eta^5$ -cyclopentadienyl)iron(II) hexafluorophosphates, 1661-4

Intermediates in the photochemical reaction of tetraphosphorus trisulphide with organic disulphides; phosphorus-31 nuclear magnetic resonance parameters for 2,6-bis(alkylthio)- and 2,6-di-iodo-3,5,7-trithia-1,2,4,6-tetraphosphabicyclo[2.2.1]heptanes and

for 3,6-bis(alkylthio)-2,5,7-trithia-1,3,4,6-tetraphosphabicyclo[2.2.1]heptanes, 1707-12

Studies of gold cluster compounds using high-resolution  $^{31}\text{P}$  solid-state nuclear magnetic resonance spectroscopy, 1811-4

Studies of phosphazenes. Part 25. Synthesis, nuclear magnetic resonance spectroscopy, and mode of formation of (aziridino)(triphenylphosphazeny)cyclotriphosphazenes. X-ray crystal structure and enzyme-inhibiting activity of  $\text{N}_3\text{P}_3(\text{NPPPh}_3)(\text{NC}_2\text{H}_4)_5$ , 1881-90

Carbon-13 nuclear magnetic resonance evidence of a relaxation process dominated by scalar coupling with a quadrupolar nucleus in  $[\text{Re}_3(\mu\text{-H})_4(\text{CO})_{10}]^-$ , 1899-902

Bis(triphenylphosphine)copper(I) derivatives of substituted *arachno* nine-vertex borane anions,  $\text{Cu}(\text{PPh}_3)_2(\text{B}_9\text{H}_{13}\text{X})$  (X = H, NCS, NCSe, NCBPh<sub>3</sub>, NCBH<sub>3</sub>, or  $\text{NCBH}_2\text{NCBH}_3$ ), 1903-8

Complexes of organoaluminium compounds. Part 13. Preparation and nuclear magnetic resonance spectra of the arylamido-compounds  $\text{AlMe}_2(\text{NHR}')$  (R' = Ph,  $\text{C}_6\text{H}_4\text{Me-}o$ ,  $\text{C}_6\text{H}_4\text{Me-}p$ ,  $\text{C}_6\text{H}_3\text{Me}_2$ -2,6) and the imido-compounds  $\text{AlMe}(\text{NR}')$ . Crystal and molecular structures of  $[\{\text{AlMe}_2(\text{NHC}_6\text{H}_4\text{Me-}o)\}_2]$  and  $[\{\text{AlMe}(\text{NPh})\}_6]$ , 1929-34

Oxygen exchange and protonation of polyanions: a multinuclear magnetic resonance study of tetradecavanadophosphate(9-) and decavanadate(6-), 1953-8

Synthesis, properties, and  $^{77}\text{Se}$  nuclear magnetic resonance studies of platinum metal complexes of two isomeric tris(selenoethers),  $\text{MeC}(\text{CH}_2\text{SeMe})_3$  and  $\text{Se}(\text{CH}_2\text{CH}_2\text{CH}_2\text{SeMe})_2$ , 2185-90

Pyramidal inversion in configurational isomers of tetracarbyl[1,1,2,2-tetrakis(methylthio)ethane]chromium(0): a two-dimensional nuclear magnetic resonance exchange study, 2195-202

Steric changes at labelled  $\text{NH}_2$  sites during the base-catalysed ammoniation of the *trans*-azido(dimethyl sulphoxide)bis(ethylenediamine)cobalt(III) ion, 2223-4

Synthesis and nuclear magnetic resonance studies of co-ordinatively unsaturated alkyne complexes of tungsten(II), 2239-46

Carbon-13 nuclear magnetic resonance study of the complexes formed between zinc(II) and triethylenetetramine, 2381-6

Polyhedral ruthenaborane chemistry: characterization of several new ruthenaboranes by nuclear magnetic resonance spectroscopy, and the crystal and molecular structure of  $[\text{5,6,6}-(\text{PPh}_3)_3\text{-6-H-}n\text{-ido-6-RuB}_9\text{H}_{12}]$ , 2397-406

Two unusual *closo*-type ruthenaboranes: preparation, molecular structure, and nuclear magnetic resonance properties of  $[\text{1,1,1}-(\text{PPh}_3)\text{HCl-1-RuB}_9\text{H}_7\text{-3,5}-(\text{PPh}_3)_2]$  and  $[\text{1,1}-(\text{PPh}_3)_2\text{-1-RuB}_{10}\text{H}_8\text{-2,5}-(\text{OEt})_2]$ , 2407-16

Nitrogen-15 nuclear magnetic resonance relaxation mechanisms in dinitrogen complexes of molybdenum, tungsten, rhenium, and osmium, 2473-8

The chemistry of heteroarylphosphorus compounds. Part 16.

Unusual substituent effects on selenium-77 nuclear magnetic resonance chemical shifts of heteroaryl- and aryl-phosphine selenides. X-Ray crystal structure of tri(2-furyl)phosphine selenide, 2505-8

Mixed-ligand complexes of trivalent lanthanides. Part 3. Complexes of heptafluorodimethyloctane-3,5-dione and pyrazine: syntheses and spectral studies, 2547-50

Conformation analysis of compounds of the type  $[\text{Fe}(\eta^5\text{-C}_5\text{H}_5)(\text{CO})(\text{PPh}_3)(\text{CH}_2\text{R})]$  (R = alkyl or aryl): a comment, 2691

Conformation analysis of compounds of the type  $[\text{Fe}(\eta^5\text{-C}_5\text{H}_5)(\text{CO})(\text{PPh}_3)(\text{CH}_2\text{R})]$  (R = alkyl or aryl): a reply, 2691

## NONABORATE

Studies of 2,5,6,10,8,10-tri- $\mu$ -hydro-nona-hydro-*nido*-nonaborate(1-),  $[\text{B}_9\text{H}_{12}]^-$ : preparation, crystal and molecular structure, nuclear magnetic resonance spectra, electrochemistry, and reactions, 1645-54

Bis(triphenylphosphine)copper(I) derivatives of substituted *arachno* nine-vertex borane anions,  $\text{Cu}(\text{PPh}_3)_2(\text{B}_9\text{H}_{13}\text{X})$  (X = H, NCS, NCSe, NCBPh<sub>3</sub>, NCBH<sub>3</sub>, or  $\text{NCBH}_2\text{NCBH}_3$ ), 1903-8

## NONYLPYRIDINE OXIDE

Solvent extraction of gold and platinum-group metals using 2-nonylpyridine 1-oxide, and the crystal and molecular structure of bis(2-nonylpyridine 1-oxide)hydrogen(1+) tetrachloroaurate(III), 771-6

## NORBORNADIENE

1*H*-pyrrolo[2,3-*b*]pyridine (HL) ligands in rhodium(I) and iridium(I) chemistry. Crystal and molecular structures of  $[\text{Rh}_2(\mu\text{-L})_2(\text{nbd})_2]$  and  $[\text{Rh}_4(\mu\text{-Cl})_2(\mu\text{-L})_2(\mu\text{-CO})_2(\text{CO})_2(\text{nbd})_2]$ , 1891-8

**N.Q.R.**

Bromine nuclear quadrupole resonance studies of some hexabromostannates: *X*-Ray crystal structure of pyridinium hexabromostannate(IV), [Hpy]<sub>2</sub>[SnBr<sub>6</sub>], 1399–404

**OCTAMOLYBDATE**

Photochemical studies of the alkylammonium molybdates. Part 7. Octahedral sites for multi-electron reduction of [Mo<sub>8</sub>O<sub>26</sub>(MoO<sub>4</sub>)<sub>2</sub>]<sup>8-</sup>, 2585–90

**OCTANEDIONATE**

Mixed-ligand complexes of trivalent lanthanides. Part 3. Complexes of heptafluorodimethyloctane-3,5-dione and pyrazine: syntheses and spectral studies, 2547–50

**OLEFIN**

Carbene complexes. Part 18. Synthetic routes to electron-rich olefin-derived monocarbene-rhodium(I) neutral and cationic complexes and their chemical and physical properties (1984, 2355), 229–30

**OLIGOMERIZATION**

Mass spectrometric studies on cyclo- and poly-phosphazenes. Part 2. Oligomerization of hexa(aryloxy)cyclotriphosphazatrienes, 1547–54

**OSMIUM**

Metallation of 2-ethenylpyridine at triosmium clusters: *X*-ray crystal structures of the open trinuclear clusters

[Os<sub>3</sub>H(CO)<sub>9</sub>L(NC<sub>5</sub>H<sub>4</sub>CH=CH)] (L = CO or PMe<sub>2</sub>Ph), 85–90

Chemistry of the clustered compound [Os<sub>3</sub>Pt(μ-H)<sub>2</sub>(CO)<sub>10</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}]<sub>2</sub>; *X*-ray crystal structures of [Os<sub>3</sub>Pt(μ-H)<sub>2</sub>(CO)<sub>11</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}]<sub>2</sub>, [Os<sub>3</sub>Pt(μ-H)<sub>4</sub>(CO)<sub>10</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}]<sub>2</sub>, and [Os<sub>3</sub>Pt(μ-H)<sub>2</sub>(μ-CH<sub>2</sub>)(CO)<sub>10</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}] (two isomers), 177–90

Co-ordination chemistry of higher oxidation states. Part 13.

Synthesis and properties of alkali-metal hydroxo-oxo-osmate(VIII) compounds and the molecular structure of Cs[O<sub>4</sub>Os(μ-OH)OsO<sub>4</sub>], 199–204

Synthesis and properties of dioxo-osmium(VI) compounds of thio- and seleno-ethers, 205–8

Two-dimensional nuclear magnetic resonance for the analysis of the carbon-13 spectra of carbonyl groups in metalcarbonyls, 225–8

The preparation and hydride reduction of dicationic dicarbonyl complexes of osmium(II); the crystal and molecular structure of *trans*-bis[1,2-bis(diphenylphosphino)ethane-PP']carbonylformylosmium(II) hexafluoroantimonate-dichloromethane (1/1), 387–94

Systematic synthesis of tetranuclear osmium clusters by the reaction of trinuclear clusters with [OsH<sub>2</sub>(CO)<sub>4</sub>]; crystal structure of [Os<sub>4</sub>H<sub>3</sub>Br(CO)<sub>13</sub>], 555–64

Mononuclear η<sup>6</sup>-*p*-cymenecosmium(II) complexes and their reactions with Al<sub>2</sub>Me<sub>6</sub> and other methylating reagents, 573–8

Complexes of the platinum metals. Part 25. Reactions of ruthenium and osmium nitrosyls [MH(NO)(PPh<sub>3</sub>)<sub>3</sub>] and [M(NO)<sub>2</sub>(PPh<sub>3</sub>)<sub>2</sub>] with perfluorocarboxylic acids: *X*-ray crystal structure determination of nitrosyl(trifluoroacetato)-(trifluoroacetohydroximato-OO')bis(triphenylphosphine)osmium(II)-dichloromethane (1/1), 621–8

Electrochemically induced ligand substitutions on [OsCl<sub>3</sub>(PMe<sub>2</sub>Ph)<sub>3</sub>]: rational pathways to osmium(II) complexes, 947–52

New isomers of [Os<sub>3</sub>(CO)<sub>10</sub>(PMe<sub>2</sub>Ph)<sub>2</sub>] and [Os<sub>3</sub>(CO)<sub>9</sub>(PMe<sub>2</sub>Ph)<sub>3</sub>], 1037–42

The reaction of [Os<sub>3</sub>(μ-H)<sub>2</sub>(CO)<sub>9</sub>L] (L = CO or PEt<sub>3</sub>) with dimethylcyanamide, Me<sub>2</sub>NCN: *X*-Ray crystal structure of [Os<sub>3</sub>(μ-H)(μ-NCHNMe<sub>2</sub>)(CO)<sub>10</sub>] and the reactions of this complex with acids, 1355–60

Preparation and vibrational spectra of [OsX<sub>6</sub>]<sup>3-</sup> (X = Cl, Br, or I) and of other platinum-group hexahalogeno-complexes, 1673–6

Synthesis and properties of alkali-metal tetraoxo-osmate(VII) compounds, 1735–6

Magnetic circular dichroism spectra of tris-chelate complexes of 2,2'-bipyridyl and 1,10-phenanthroline with iron(II), ruthenium(II), and osmium(II) at 4.2 K, 1781–8

Reactions of some decaosmium clusters with electrophilic and nucleophilic reagents: *X*-ray structure analyses of [N(PPh<sub>3</sub>)<sub>2</sub>][Os<sub>10</sub>C(CO)<sub>24</sub>(μ-I)], [Os<sub>10</sub>C(CO)<sub>24</sub>(μ-I)<sub>2</sub>], [N(PPh<sub>3</sub>)<sub>2</sub>][Os<sub>10</sub>C(CO)<sub>22</sub>(NO)I], [Os<sub>10</sub>C(CO)<sub>23</sub>{P(OMe)<sub>3</sub>}]<sub>2</sub>(μ-I<sub>2</sub>) and of two isomers of [Os<sub>10</sub>C(CO)<sub>21</sub>{P(OMe)<sub>3</sub>}]<sub>4</sub>, 1795–810

The chemistry and catalytic properties of ruthenium and osmium complexes. Part 1. Homogeneous catalysis of organic reactions

by bromo(carbonyl)hydridotris(triphenylphosphine)osmium(II), 1859–64

Complexes of the platinum metals. Part 29. Pyridine-2-thiolate derivatives of ruthenium and osmium: *X*-ray crystal structures of [Ru(C<sub>5</sub>H<sub>4</sub>NS)<sub>2</sub>(CO)<sub>2</sub>(PPh<sub>3</sub>)] and [Ru(C<sub>5</sub>H<sub>4</sub>NS)<sub>2</sub>(CO)(PPh<sub>3</sub>)], 2101–12

Electrophilic nitrosyls: preparation, structure, and reactivity of *cis*-chloronitrosylbis(pyridine-2-carboxylato)ruthenium and related complexes, 2427–32

Synthesis of tetra- and penta-nuclear platinum-osmium carbido-cluster complexes from non-carbido-precursors: *X*-ray structural studies on [Os<sub>3</sub>Pt(μ-H)<sub>2</sub>(μ<sub>4</sub>-C)(CO)<sub>10</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}]<sub>2</sub>, [Os<sub>3</sub>Pt<sub>2</sub>(μ-H)<sub>2</sub>(μ<sub>5</sub>-C)(μ-CO)(CO)<sub>9</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}]<sub>2</sub>, and [Os<sub>3</sub>Pt<sub>5</sub>(μ-H)(μ<sub>5</sub>-C)(μ-OMe)(μ-CO)(CO)<sub>9</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}]<sub>2</sub>, 2437–48

Nitrogen-15 nuclear magnetic resonance relaxation mechanisms in dinitrogen complexes of molybdenum, tungsten, rhenium, and osmium, 2473–8

Acid-induced displacement of acetaldehyde from a μ-vinyl-oxo-triosmium cluster, 2479–82

**OXALATE**

Light-induced electron-transfer reactions. Part 3. Kinetics of the oxidation reaction of oxalate ion by peroxodisulphate ion, induced by irradiation with visible light of an aqueous solution containing tris(2,2'-bipyridine)ruthenium(II), 355–60

**OXALIC ACID**

Equilibrium and structural studies of silicon(IV) and aluminium(III) in aqueous solution. Part 13. A potentiometric and <sup>27</sup>Al nuclear magnetic resonance study of speciation and equilibria in the aluminium(III)-oxalic acid-hydroxide system, 2665–70

**OXIDATION**

Light-induced electron-transfer reactions. Part 3. Kinetics of the oxidation reaction of oxalate ion by peroxodisulphate ion, induced by irradiation with visible light of an aqueous solution containing tris(2,2'-bipyridine)ruthenium(II), 355–60

Catalytic air oxidation of benzoin in the presence of dioxomolybdenum(VI) complexes with sulphur chelate ligands, 635–40

Reduction-oxidation properties of organotransition-metal complexes. Part 20. Oxidative and thermolytic cyclopropane ring-opening reactions: *X*-ray crystal structure of [Fe<sub>2</sub>(CO)<sub>6</sub>(η<sup>4</sup>:η<sup>4</sup>-C<sub>16</sub>H<sub>18</sub>)], 699–706

Studies on singlet oxygen in aqueous solution. Part 1. Formation of singlet oxygen from hydrogen peroxide with two-electron oxidants, 1141–6

Oxidation of thiourea by iodate: a new type of oligo-oscillatory reaction, 1669–72

Kinetics and mechanism of the oxidation of substituted malonic acids by the hexachloroiridate(IV) ion, 1683–8

Formation of oxidized molybdenum-bearing ferrites, Fe<sub>2.95</sub>-xMo<sub>x</sub>O<sub>4</sub> (x = 0.03–0.30) in aqueous suspensions by air oxidation and valence state of molybdenum ions in the lattice, 1713–6

Stereochemical consequences of the two-electron oxidation of a dirhodium fulvalene complex: the *X*-ray crystal structures of *trans*-[Rh<sub>2</sub>(CO)<sub>2</sub>(PPh<sub>3</sub>)<sub>2</sub>(η<sup>5</sup>:η<sup>5</sup>-C<sub>10</sub>H<sub>8</sub>)] and *cis*-[Rh<sub>2</sub>(CO)<sub>2</sub>(PPh<sub>3</sub>)<sub>2</sub>(η<sup>5</sup>:η<sup>5</sup>-C<sub>10</sub>H<sub>8</sub>)] [PF<sub>6</sub>]<sub>2</sub>, 2283–90

**OXIDE**

Reactions in mixed non-aqueous systems containing sulphur dioxide. Part 6. The reaction of metal oxides with dimethyl sulphoxide-sulphur dioxide, 99–100

Co-ordination chemistry of higher oxidation states. Part 13. Synthesis and properties of alkali-metal hydroxo-oxo-osmate(VIII) compounds and the molecular structure of Cs[O<sub>4</sub>Os(μ-OH)OsO<sub>4</sub>], 199–204

Synthesis and properties of dioxo-osmium(VI) compounds of thio- and seleno-ethers, 205–8

Synthesis and structural assessment of ammonium and caesium difluorodioxoperoxouranates(VI), A<sub>2</sub>[UO<sub>2</sub>(O<sub>2</sub>)F<sub>2</sub>] (A = NH<sub>4</sub> or Cs), and alkali-metal difluorodioxoperoxouranate(VI) monohydrates, A<sub>2</sub>[UO<sub>2</sub>(O<sub>2</sub>)F<sub>2</sub>]·H<sub>2</sub>O (A = K or Rb), 409–12

Tin-molybdenum oxides. A study by *X*-ray diffraction, Mössbauer spectroscopy, and electron spin resonance, 451–4

Characterisation of chromium(VI) oxide tetrafluoride, CrOF<sub>4</sub>, and caesium pentafluoro-oxochromate(VI) Cs[CrOF<sub>5</sub>], 529–34

Actinide structural studies. Part 7. The crystal and molecular structures of (2,2'-bipyridyl)dinitratodioxo-uranium(VI) and -neptunium(VI), and diacetato(2,2'-bipyridyl)dioxo-uranium(VI) and -neptunium(VI), 1001–8

**OXIDE** (contd)

Reactions of bis(cyclopentadienyl)vanadium derivatives with nitrogen mono-oxide and the crystal structure of an oxo-bridged nitrosyl complex of vanadium, 1435–42

Magnetic exchange interactions in perovskite solid solutions. Part 5. The unusual defect structure of  $\text{SrFeO}_{3-x}$ , 1455–70

Synthesis and crystal structure of the layer compound  $\text{Sb}_3\text{TeO}_6\text{Cl}$ , 1633–6

Formation of oxidized molybdenum-bearing ferrites,  $\text{Fe}_{2.95-x}\text{Mo}_x\text{O}_4$  ( $x = 0.03\text{--}0.30$ ) in aqueous suspensions by air oxidation and valence state of molybdenum ions in the lattice, 1713–6

Oxoalkyls of rhenium-(v) and -(vi). *X*-Ray crystal structures of  $(\text{Me}_4\text{ReO})_2\text{Mg}(\text{thf})_4$ ,  $[(\text{Me}_3\text{SiCH}_2)_4\text{ReO}]_2\text{Mg}(\text{thf})_2$ ,  $\text{Re}_2\text{O}_3\text{Me}_6$ , and  $\text{Re}_2\text{O}_3(\text{CH}_2\text{SiMe}_3)_6$ , 2167–76

A disagreement on the explanation of short and long As–O bonds of the  $(\text{As–O})_4$  ring in  $\text{As}_4(\text{CF}_3)_6\text{O}_6(\text{OH})_2$  in terms of  $\text{As}^{\text{III}}\text{–O}$  and  $\text{As}^{\text{V}}\text{–O}$  bonds, 2221–2

Synthesis and characterisation of new mixed oxides of antimony and tellurium, 2225–30

Crystal structures and magnetism of binuclear iron(III) complexes with a linear oxo-bridge,  $[\text{Fe}_2\text{O}(\text{bbimae})_2\text{X}_2][\text{NO}_3]_2$  {bbimae = 2-[bis(benzimidazol-2-ylmethyl)amino]ethanol,  $\text{X} = \text{Cl}$  or  $\text{NCS}$ }, 2375–80

A novel pentameric hydrolysis product of  $\text{SnMe}_2\text{Cl}_2$ : crystal and molecular structure of  $[\text{NH}_2\text{Et}_3][(\text{SnMe}_2\text{Cl})_5\text{O}_3]$ , 2683–6

**OXIMATE**

One-electron reduction of nickel(IV) oxime complexes, 2213–6

**OXOPHOSPHAZADIENE**

Studies of phosphazenes. Part 22. High-field nuclear magnetic resonance investigation of novel isomeric oxophosphazadienes, 1431–4

**OXYACID**

The easy catalytic reduction of  $\text{HClO}_4$ ,  $\text{HNO}_3$ , and  $\text{H}_5\text{IO}_6$  by CO in the presence of  $[\text{Pd}_3(\text{O}_2\text{CMe})_6]$ , 1971–4

**OXYGEN-17**

High-field vanadium-51 and oxygen-17 nuclear magnetic resonance study of peroxovanadates(v), 1173–8

Oxygen exchange and protonation of polyanions: a multinuclear magnetic resonance study of tetradeavanadophosphate(9–) and decavanadate(6–), 1953–8

**OXYGEN-18**

Oxygenation studies. Part 7. Catalytic dioxygenation of cyclo-octa-1,5-diene at a rhodium centre, 1591–6

**OXYGENATION**

Oxygenation studies. Part 7. Catalytic dioxygenation of cyclo-octa-1,5-diene at a rhodium centre, 1591–6

**PALLADACYCLOBUTANONE**

Chemistry of metallacyclobutanones. Part 2. Synthesis and ring inversion of some highly puckered metallacyclobutan-3-one (slipped oxodimethylenemethane) complexes of palladium; crystal structures of 2,4-bis(methoxycarbonyl)-1,1-bis(triphenylphosphine)palladacyclobutan-3-one, 2,4-bis(methoxycarbonyl)-1,1-bis(triphenylarsine)palladacyclobutan-3-one, and 1,1-(2,2'-bipyridyl)-2,4-bis(methoxycarbonyl)palladacyclobutan-3-one, 259–68

**PALLADIUM**

Chemistry of metallacyclobutanones. Part 2. Synthesis and ring inversion of some highly puckered metallacyclobutan-3-one (slipped oxodimethylenemethane) complexes of palladium; crystal structures of 2,4-bis(methoxycarbonyl)-1,1-bis(triphenylphosphine)palladacyclobutan-3-one, 2,4-bis(methoxycarbonyl)-1,1-bis(triphenylarsine)palladacyclobutan-3-one, and 1,1-(2,2'-bipyridyl)-2,4-bis(methoxycarbonyl)palladacyclobutan-3-one, 259–68

Bimetallic systems. Part 7. Platinum and palladium dicyanides containing terminal or bridging  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$  and heterobimetallics with silver, gold, mercury, rhodium, iridium, or molybdenum, 279–84

Carborane derivatives of the late- and post-transition elements. Part 3. Structural consequences of ligand substitution in palladadicarbadodecaboranes 3- $\text{L}_2$ -3,1,2- $\text{PdC}_2\text{B}_9\text{H}_{11}$ . The crystal and molecular structures of 3- $[\text{Me}_2\text{N}(\text{CH}_2)_2\text{NMe}_2]$ -3,1,2- $\text{PdC}_2\text{B}_9\text{H}_{11}$  and 3- $(\text{PMe}_2)_2$ -3,1,2- $\text{PdC}_2\text{B}_9\text{H}_{11}$ , 761–70

Palladium(II,IV) mixed-valence complexes of 1,2-diaminoethane, 1,3-diaminopropane, and diethylenetriamine: syntheses, electronic, infrared, Raman, and resonance Raman spectra and *X*-ray studies, 815–20

Reactions of 6,6'-bis(*nido*-decaboranyl) oxide and 6-hydroxy-*nido*-

decaborane with dihalogenobis(phosphine) complexes of nickel, palladium, and platinum, and some related chemistry; nuclear magnetic resonance investigations and the crystal and molecular structures of bis(dimethylphosphine)-di- $\mu$ -(2,3,4- $\eta^3$ -*nido*-hexaboranyl)-diplatinum(*Pt–Pt*),  $[\text{Pt}_2(\mu\text{-}\eta^3\text{-B}_6\text{H}_9)_2(\text{PMe}_2\text{Ph})_2]$ , and of 2,4-dichloro-1,1-bis(dimethylphenylphosphine)-*closo*-1-nickeladecaborane,  $[(\text{PhMe}_2\text{P})_2\text{NiB}_9\text{H}_7\text{Cl}_2]$ , 953–72

Dynamic behaviour of carbon-metallated palladium hydrazone

complexes. Crystal structures of  $[\{\text{Pd}[\text{CH}_2\text{CMe}_2\text{C}(\text{=N-NMePh})\text{Me}]_2\}]_2$  and  $[\{\text{Pd}[\text{CH}_2\text{C}(\text{=N-NMePh})\text{Bu}^t]\text{Cl}\}]_2$ , 1155–62

Synthesis, properties, and multinuclear magnetic resonance ( $^1\text{H}$ ,  $^{77}\text{Se}$ , and  $^{195}\text{Pt}$ ) studies on diselenoether complexes of palladium, platinum, and rhodium, 1265–70

Mono- and di-nuclear rhodium and palladium complexes of macrocyclic ligands containing the 2,6-di(thiomethyl)pyridine sub-unit, 1517–22

Cyclopalladated derivatives of 2,4'-bipyridine, 1719–22

The easy catalytic reduction of  $\text{HClO}_4$ ,  $\text{HNO}_3$ , and  $\text{H}_5\text{IO}_6$  by CO in the presence of  $[\text{Pd}_3(\text{O}_2\text{CMe})_6]$ , 1971–4

The palladium-catalysed reaction between  $[\text{Re}_2(\text{CO})_{10}]$  and phosphines and the crystal and molecular structure of diaxial  $[\text{Re}_2(\text{CO})_8(\text{PMe}_2\text{Ph})_2]$ , 2277–82

Preparation, characterization, and physical properties of the series  $\text{MPd}_3\text{S}_4$  ( $\text{M} = \text{rare earth}$ ), 2369–74

Kinetics and mechanism of ortho-palladation of ring-substituted *N,N*-dimethylbenzylamines, 2629–38

**PARACYCLOPHANE**

Geometry-dependent complexation effects in carbon-13 nuclear magnetic resonance spectra of tricarbonyl(3–8- $\eta$ -[2.2]paracyclophane)chromium and related complexes, 1065–8

**PENDANT ARM**

Studies of pendant-arm macrocyclic ligands. Part 4. Two penta-aza macrocycles based on 1-(2'-dimethylaminoethyl)-1,5,9,13-tetra-azacyclohexadecane and its complexes with bivalent metal ions, 1361–4

**PENTA-AZABICYCLOOCTADECATRIENE**

Studies in the flexibility of macrocycle ligands. Calculation of macrocycle cavity size by force-field methods. Crystal and molecular structures of  $[\text{CoCl}][\text{ClO}_4]_2$  and  $[\text{CuL}][\text{PF}_6]_2$  { $\text{L} = 2,13$ -dimethyl-3,6,9,12,18-penta-azabicyclo[12.3.1]octadeca-1(18),14,16-triene}, 1829–34

**PENTACHLOROCYCLOPENTADIENYL**

The structure of pentachlorocyclopentadienylmercury(II) in the solid state and in solution; the effect of *X*-ray absorption and crystal decay on molecular geometry parameters, 471–4

**PENTADIENYL**

Reactivity of  $[\text{PPh}_4][\text{Fe}_2(\text{CO})_6\{\mu\text{-CPhCPhC}(\text{CF}_3)\text{C}(\text{CF}_3)\text{H}\}]$  toward electrophiles. *X*-Ray structure of  $[\text{Fe}_2(\text{CO})_6\{\mu\text{-CPhCPhC}(\text{CF}_3)\text{CHC}(\text{OEt})_2\}]$ , a product resulting from fluorine abstraction at a  $\text{CF}_3$  group and subsequent fluorine substitution by ethoxy-groups, 1981–4

He I and He II photoelectron spectra of open-chain pentadienyl complexes of manganese and rhenium, 2677–82

**PENTADIENYLIDENE**

Carbon-carbon formation at di-iron centres. Part 2. Reactivity of  $[\text{Fe}_2(\text{CO})_6(\mu\text{-COEt})\{\mu\text{-C}(\text{R})\text{C}(\text{R})\text{H}\}]$  complexes toward  $\text{MeOC}(\text{O})\text{C}\equiv\text{C}(\text{O})\text{OMe}$  ( $\text{R} = \text{Ph}$ ) and  $\text{CF}_3\text{C}\equiv\text{CCF}_3$  ( $\text{R} = \text{Ph}$  or  $\text{H}$ ); *X*-ray crystal structures of  $[\text{Fe}_2(\text{CO})_6\{\mu\text{-C}(\text{OEt})\text{C}(\text{C}(\text{O})\text{OMe})\text{C}(\text{C}(\text{O})\text{OMe})\}]_2\{\mu\text{-C}(\text{Ph})\text{C}(\text{Ph})\text{H}\}]_2\cdot\text{H}_2\text{O}$  and  $[\text{Fe}_2(\text{CO})_6\{\mu\text{-C}(\text{CF}_3)\text{C}(\text{CF}_3)\text{CHCHC}(\text{OMe})\}]_2$ , 1087–94

**PENTAMETHYLCYCLOPENTADIENYL**

Synthesis, structures, and reactivities of some pentamethylcyclopentadienyl-sulphur compounds, 1303–8

The syntheses and characterisation of, and the determination of  $^1\text{J}({}^{103}\text{Rh}\text{--}{}^{103}\text{Rh})$  in  $[(\eta^5\text{-C}_5\text{Me}_5)_2\text{Rh}_2(\mu\text{-CH}_2)_2\{\mu\text{-CH}_2\text{CR}(\text{CH}_2\text{CR}=\text{CH}_2)\text{CH}_2\}]$  ( $\text{R} = \text{H}$  or  $\text{Me}$ ) and  $[(\eta^5\text{-C}_5\text{Me}_5)_2\text{Rh}_2(\mu\text{-CH}_2)_2\{\mu\text{-Ph}_2\text{P}(\text{CH}_2)_n\text{PPh}_2\}]^{2+}$  ( $n = 1$  or  $2$ ), 1555–60

**PEPTIDE**

The L-proline residue as a 'break-point' in metal-peptide systems, 535–40

Specific binding of the tyrosine residue in copper(II) complexes of Tyr-Pro-Gly-Tyr and Tyr-Gly-Pro-Tyr, 1201–6

**PERCHLORATE**

Lewis-base adducts of Group 1B metal(I) compounds. Part 12. Structural studies of some bis(methyl-substituted pyridine)-copper(I) and -silver(I) nitrates and perchlorates, 117–24

**PERCHLORATE** (contd)

- Lewis-base adducts of Group 1B metal(i) compounds. Part 13. Crystal structure determinations of tetrakis(triphenyl-phosphine)-copper(i) and -silver(i) perchlorates, bis(pyridine)bis(triphenylphosphine)copper(i) perchlorate, (2,2'-bipyridyl)bis(triphenylphosphine)copper(i) perchlorate, and tetrahydroboratobis(triphenylphosphine)copper(i)-pyridine (1/0.5), 125-34
- The crystal structure and electronic properties of the complex acetatobis(1,10-phenanthroline)copper(II) perchlorate dihydrate, acetatobis(1,10-phenanthroline)copper(II) nitrate dihydrate, and acetatobis(1,10-phenanthroline)zinc(II) tetrafluoroborate dihydrate, 141-50
- Chlorine trioxide, Cl<sub>2</sub>O<sub>6</sub>, a most efficient perchlorating reagent in new syntheses of anhydrous metal perchlorates, chloryl and nitryl perchloratometalates of cobalt(II), nickel(II), and copper(II). Reactivity of chlorine trioxide with anhydrous or hydrated chlorides and nitrates, 297-306

**PERFLUOROCARBOXYLIC ACID**

- Complexes of the platinum metals. Part 25. Reactions of ruthenium and osmium nitrosyls [MH(NO)(PPh<sub>3</sub>)<sub>3</sub>] and [M(NO)<sub>2</sub>(PPh<sub>3</sub>)<sub>2</sub>] with perfluorocarboxylic acids: X-ray crystal structure determination of nitrosyl(trifluoroacetato)-(trifluoroacetohydroximato)-O,O'-bis(triphenylphosphine)osmium(II)-dichloromethane (1/1), 621-8

**PEROVSKITE**

- Magnetic exchange interactions in perovskite solid solutions. Part 5. The unusual defect structure of SrFeO<sub>3-y</sub>, 1455-70

**PEROXIDE**

- Synthesis and structural assessment of ammonium and caesium difluorodioxoperoxouranates(VI), A<sub>2</sub>[UO<sub>2</sub>(O<sub>2</sub>)F<sub>2</sub>] (A = NH<sub>4</sub> or Cs), and alkali-metal difluorodioxoperoxouranate(VI) monohydrates, A<sub>2</sub>[UO<sub>2</sub>(O<sub>2</sub>)F<sub>2</sub>]-H<sub>2</sub>O (A = K or Rb), 409-12
- High-field vanadium-51 and oxygen-17 nuclear magnetic resonance study of peroxovanadates(V), 1173-8

**PEROXODISULPHATE**

- The peroxodisulphate-iodide reaction. Reactivity and ionic association and solvation in isodielectric water-solvent mixtures, 31-4
- Light-induced electron-transfer reactions. Part 3. Kinetics of the oxidation reaction of oxalate ion by peroxodisulphate ion, induced by irradiation with visible light of an aqueous solution containing tris(2,2'-bipyridine)ruthenium(II), 355-60
- The peroxodisulphate-hexacyanoferrate(II) reaction. Reactivity and ionic association in isodielectric water-co-solvent mixtures, 1975-6

**PEROXY-ACID**

- Studies on singlet oxygen in aqueous solution. Part 3. The decomposition of peroxy-acids, 1151-4

**PHENANTHROLINE**

- Co-ordinative interactions in chelated complexes of silicon. Part 5. Chirality of five-co-ordinate silicon compounds: crystal and molecular structures of 1-(chlorodimethylsilyl)- and 1-(dichloromethylsilyl)-1,2,3,4-tetrahydro-1,10-phenanthroline, 1-4
- Co-ordinative interactions in chelated complexes of silicon. Part 7. Dynamic nuclear magnetic resonance studies of fluorine exchange at five-co-ordinated silicon, 5-8
- The crystal structure and electronic properties of the complex acetatobis(1,10-phenanthroline)copper(II) perchlorate dihydrate, acetatobis(1,10-phenanthroline)copper(II) nitrate dihydrate, and acetatobis(1,10-phenanthroline)zinc(II) tetrafluoroborate dihydrate, 141-50
- The red form of bis(1,10-phenanthroline)dithiocyanatoiron(II), 991-6
- Magnetic circular dichroism spectra of tris-chelate complexes of 2,2'-bipyridyl and 1,10-phenanthroline with iron(II), ruthenium(II), and osmium(II) at 4.2 K, 1781-8
- New photoreduction catalysis by [Cu(N-N)(PPh<sub>3</sub>)<sub>2</sub>]<sup>+</sup> (N-N = 2,9-dimethyl-1,10-phenanthroline or 4,4',6,6'-tetramethyl-2,2'-bipyridine) and its application to cobalt(III) complexes, 1959-62
- Influence of decreasing solvent polarity (dioxane-water mixtures) on the stability and structure of binary and ternary complexes of adenosine 5'-triphosphate and uridine 5'-triphosphate, 2291-304
- Lewis-base adducts of Group 1B metal(i) compounds. Part 18. Stereochemistries and structures of the 1:1 neutral complexes of Cu<sup>X</sup> with 1,10-phenanthroline (X = I) or 2,9-dimethyl-1,10-phenanthroline (X = I, Br, or Cl), 2531-40
- Lewis-base adducts of Group 1B metal(i) compounds. Part 19.

- Crystal structures of bis(1,10-phenanthroline)copper(I) perchlorate and dibromocuprate(I), 2541-6

**PHENOL**

- Reactivity of the unsaturated anion decacarbonyltetra-μ-hydrido-trirhenate(1-) toward phenols. Crystal and molecular structures of the tetraethylammonium salts of the triangular cluster anion [Re<sub>3</sub>(μ-H)<sub>3</sub>(μ-OC<sub>6</sub>F<sub>5</sub>)(CO)<sub>10</sub>]<sup>-</sup> and of the binuclear anion [Re<sub>2</sub>(μ-OC<sub>6</sub>H<sub>5</sub>)<sub>3</sub>(CO)<sub>6</sub>]<sup>-</sup>, 1507-12

**PHENOLATE**

- Crystal structures and magnetic properties of binuclear five-co-ordinate copper(II) complexes with a phenolate bridge and their catalytic functions in multielectron redox reactions, 1945-52

**PHENYL**

- Chemical and structural aspects of silver-triphenylarsine complexes and silver-tin complex salts, 321-32
- Insertion of NO into transition metal-aryl bonds: formation of zirconium complexes containing the [ON(R)NO]<sup>-</sup> (R = Ph or *p*-MeC<sub>6</sub>H<sub>4</sub>) ligand, 405-8
- The structure of pentachlorocyclopentadienylphenylmercury(II) in the solid state and in solution: the effect of X-ray absorption and crystal decay on molecular geometry parameters, 471-4
- Investigation into diphosphine oxides as ligands in diorganotin(IV) adducts. Part 3. Synthesis and crystal structure of two adducts of dinitratodiphenyltin(IV) with *cis*- and *trans*-1,2-bis(diphenylphosphoryl)ethylene, 487-92
- Organotin biocides. Part 2. Variable-temperature <sup>119</sup>Sn Mössbauer study of phenyl- and cyclohexyl-tin compounds, 1417-24

**PHENYLAZOPYRIDINE**

- Mono- and bi-nuclear hydroxamates of bis(2-phenylazopyridine)ruthenium(II), 361-8

**PHENYLHYDRAZONE**

- Mercurated and tellurated Schiff bases and phenylhydrazones, 821-6

**PHOSPHAPENTANEDITHIOLATE**

- Molybdenum, rhenium, and tungsten complexes with bi- and tridentate phosphinothiolato-ligands; structures of [Mo{PhP(CH<sub>2</sub>CH<sub>2</sub>S)<sub>2</sub>}<sub>2</sub>] and [Mo(NNMe<sub>2</sub>){PhP(CH<sub>2</sub>CH<sub>2</sub>S)<sub>2</sub>}<sub>2</sub>], 2647-54

**PHOSPHATE**

- Crystalline zirconium(IV) hydrogenarsenate hydrogenphosphate monohydrate: synthesis, ion-exchange properties, and thermal behaviour, 1737-42
- Thermodynamic treatment of exchange of H<sup>+</sup> and K<sup>+</sup> in α-titanium phosphate, 1865-8

**PHOSPHIDE**

- Cluster chemistry. Part 32. Synthesis and X-ray crystal structure of [Ru<sub>5</sub>(μ<sub>5</sub>-η<sup>2</sup>-C<sub>2</sub>PPh<sub>2</sub>-P)(μ-PPh<sub>2</sub>)(CO)<sub>13</sub>], a complex containing an alkynyl ligand in extended interaction with an open Ru<sub>5</sub> cluster, 1229-34
- Reaction between [Ru<sub>3</sub>(CO)<sub>12</sub>] and the tridentate phosphine ligand HC(PPh<sub>2</sub>)<sub>3</sub>; X-ray crystal structures of complexes [Ru<sub>3</sub>(CO)<sub>9</sub>{Ph<sub>2</sub>PCHP(Ph)C<sub>6</sub>H<sub>4</sub>PPh<sub>2</sub>}], [Ru<sub>2</sub>H(CO)<sub>4</sub>(Ph<sub>2</sub>PCHPPh<sub>2</sub>){PhPC<sub>6</sub>H<sub>4</sub>C(O)}], and [Ru<sub>2</sub>(CO)<sub>4</sub>Cl(PPh<sub>2</sub>)(dppm)], 1835-42

**PHOSPHINE**

- Reaction of bis-μ-diethylphosphido-bis(tetracarbonylmetal) (M-M) (M = Cr or W) with tri-n-butylphosphine: kinetics and mechanism of a reaction involving seven-co-ordinate complexes, 91-8
- Lewis-base adducts of Group 1B metal(i) compounds. Part 13. Crystal structure determinations of tetrakis(triphenyl-phosphine)-copper(i) and -silver(i) perchlorates, bis(pyridine)bis(triphenylphosphine)copper(i) perchlorate, (2,2'-bipyridyl)bis(triphenylphosphine)copper(i) perchlorate, and tetrahydroboratobis(triphenylphosphine)copper(i)-pyridine (1/0.5), 125-34
- The co-ordination chemistry of manganese. Part 14. Synthesis of manganese(II) complexes of tertiary phosphine ligands containing 2-cyanoethyl groups, 135-40
- Insertion of carbon dioxide, of CO<sub>2</sub>-like molecules, and of other unsaturated compounds into the platinum-nitrogen bond of [Pt(PPh<sub>3</sub>)<sub>2</sub>(PhNO)], 163-8
- Hexakis(trimethylphosphine)molybdenum chemistry: dinitrogen, ethylene, butadiene, η-cyclopentadienyl, and related derivatives, 423-34
- Trimethylphosphine polyhydrides of tungsten and rhenium, 587-90
- Electrochemically induced ligand substitutions on [OsCl<sub>3</sub>(PMe<sub>2</sub>Ph)<sub>3</sub>]: rational pathways to osmium(II) complexes, 947-52

**PHOSPHINE** (contd)

- New isomers of  $[\text{Os}_3(\text{CO})_{10}(\text{PMe}_2\text{Ph})_2]$  and  $[\text{Os}_3(\text{CO})_9(\text{PMe}_2\text{Ph})_3]$ , 1037–42
- Reaction of trithiazyl trichloride,  $(\text{NSCl})_3$ , with triphenylphosphine or triphenylphosphine metal complexes. *X*-Ray crystal structure of aminotriphenylphosphonium chloride–dichloromethane (1/1),  $[\text{Ph}_3\text{PNH}_2]\text{Cl}\cdot\text{CH}_2\text{Cl}_2$ , 1043–8
- Fluorophosphine complexes of rhodium(i) and iridium(i): towards the design of systems with extended metal–metal interactions. The crystal structure of  $[\{\text{IrCl}(\text{PF}_3)_2\}_2]$ , 1295–302
- Preparation and properties of *cis*- $[\text{W}(\text{N}_2)_2(\text{Ph}_2\text{PCH}_2\text{PPh}_2)_2]$  and *trans*- $[\text{M}(\text{N}_2)_2(\text{Ph}_2\text{PCH}=\text{CHPPh}_2)_2]$  ( $\text{M} = \text{Mo}$  or  $\text{W}$ ), and the crystal structure of *cis*- $[\text{W}(\text{N}_2)_2(\text{PMe}_2\text{Ph})_4]$ , 1523–6
- Synthesis and structural characterisation of some *triangular*-platinum clusters containing isocyanide ligands, 1693–8
- Iodine-127 Mössbauer spectroscopy of copper(i) iodide–phosphine adducts, 1727–30
- Studies of gold cluster compounds using high-resolution  $^{31}\text{P}$  solid-state nuclear magnetic resonance spectroscopy, 1811–4
- The chemistry and catalytic properties of ruthenium and osmium complexes. Part 1. Homogeneous catalysis of organic reactions by bromo(carbonyl)hydridotris(triphenylphosphine)osmium(ii), 1859–64
- Isolation and crystal structure of  $[\text{Rh}(\text{PPh}_3)_3(\text{MeCN})][\text{BF}_4]$ , acetonitriletris(triphenylphosphine)rhodium(i) tetrafluoroborate, 1977–80
- Trimethylphosphine as a reactive solvent: synthesis, crystal structures, and reactions of  $[\text{Ta}(\text{PMe}_3)_3(\eta^2\text{-CH}_2\text{PMe}_2)(\eta^2\text{-CHPMe}_2)]$  and  $[\text{W}(\text{PMe}_3)_4(\eta^2\text{-CH}_2\text{PMe}_2\text{H})]$  and related studies, 2025–36
- Complexes of the platinum metals. Part 30. Fragmentation reactions of rhodium and iridium trichloro- and tribromoacetates, 2113–20
- On the synthesis of dimethylphenylphosphine complexes of manganese(ii) halides, 2203–4
- Synthesis and *X*-ray crystal structure of the asymmetric trinuclear complex  $[\text{Ni}_3(\mu_3\text{-S})_2(\text{H}_2\text{O})(\text{PPh}_3)_5][\text{PF}_6]_2$ , 2209–12
- Co-ordinatively unsaturated diene complexes of tungsten(ii) and their reactions with nucleophiles to give six- and seven-coordinate derivatives, 2231–8
- Reactivity of  $[\text{NBu}_4]_2[\text{Mo}_2\text{Br}_6]$  with several uni- and poly-dentate phosphines. *X*-Ray structure of  $[\text{NBu}_4][\text{MoBr}_4(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)]$ , 2263–8
- The palladium-catalysed reaction between  $[\text{Re}_2(\text{CO})_{10}]$  and phosphines and the crystal and molecular structure of diaxial  $[\text{Re}_2(\text{CO})_8(\text{PMe}_2\text{Ph})_2]$ , 2277–82
- Reactivity of  $[\text{NiR}(\text{R}')\text{L}_2]$  compounds and the crystal structure of  $[\text{Ni}(\text{C}_2\text{Cl}_3)(\text{C}_6\text{H}_5\text{Me}_3\text{-2,4,6})(\text{PMe}_2\text{Ph})_2]$ , 2333–42
- The chemistry of heteroarylphosphorus compounds. Part 16. Unusual substituent effects on selenium-77 nuclear magnetic resonance chemical shifts of heteroaryl- and aryl-phosphine selenides. *X*-Ray crystal structure of tri(2-furyl)phosphine selenide, 2505–8
- Cationic complexes of ruthenium-(ii) and -(iii) with uni- and poly-dentate ligands, 2603–8
- Novel ring compounds of bidentate phosphines with gold(i). Two-, three-, and four-co-ordination, 2655–60
- The co-ordination of small molecules by manganese(ii) phosphine complexes. Part 3. The dependence on the nature of the halogen in  $[\text{MnX}_2(\text{PR}_3)]$  ( $\text{X} = \text{Cl}, \text{Br}, \text{or I}$ ;  $\text{R}_3 = \text{PhMe}_2, \text{PhEt}_2, \text{PhPr}^n, \text{PhBu}^n, \text{PhBu}^n, \text{Pr}^n, \text{Bu}^n, \text{or Ph}_3$ ) on adduct formation with sulphur dioxide in the solid state and in tetrahydrofuran solution, 2661–4

**PHOSPHINE IMIDE**

- Determination of the molecular structures of tri(*t*-butyl)phosphine oxide and tri(*t*-butyl)phosphine imide in the gas phase by electron diffraction, 827–30

**PHOSPHINE OXIDE**

- Determination of the molecular structures of tri(*t*-butyl)phosphine oxide and tri(*t*-butyl)phosphine imide in the gas phase by electron diffraction, 827–30

**PHOSPHINETRILTRIPROPIONATE**

- Trigonal bipyramidal penta-aquazinc(ii): crystal structure of penta-aquazinc(ii) bis(3,3',3''-phosphinetriyl(triisopropionato)dizincate(ii,ii) heptahydrate, 2393–6

**PHOSPHINOTHIOITE**

- Synthesis, solution structure, and halide addition compounds of bis(dicyclohexylphosphinothioite)mercury(ii), 223–4

**PHOSPHITE**

- Reactions of co-ordinated ligands. Part 33. Mononuclear  $\eta^2$ -vinyl complexes: synthesis, structure, and reactivity, 435–50
- Complexes of the platinum metals. Part 26. Multinuclear nuclear magnetic resonance studies on rhodium(ii) carboxylate adducts, 629–34
- Reactions of some decaosmium clusters with electrophilic and nucleophilic reagents: *X*-ray structure analyses of  $[\text{N}(\text{PPh}_3)_2][\text{Os}_{10}\text{C}(\text{CO})_{24}(\mu\text{-I})]$ ,  $[\text{Os}_{10}\text{C}(\text{CO})_{24}(\mu\text{-I})_2]$ ,  $[\text{N}(\text{PPh}_3)_2][\text{Os}_{10}\text{C}(\text{CO})_{22}(\text{NO})\text{I}]$ ,  $[\text{Os}_{10}\text{C}(\text{CO})_{23}\{\text{P}(\text{OMe})_3(\mu\text{-I})_2\}]$  and of two isomers of  $[\text{Os}_{10}\text{C}(\text{CO})_{21}\{\text{P}(\text{OMe})_3\}_4]$ , 1795–810

**PHOSPHOCHOLINE**

- Phosphocholine-substituted 5,10,15,20-tetraphenylporphyrinatoiron(ii): oxygen carrier under physiological conditions, 275–8

**PHOSPHONATE**

- Preparation and crystal structure of  $\text{Na}_4[\text{Hg}_4(\mu\text{-Cl})_4\{\text{P}(\text{O})(\text{OEt})_2\}_8]\cdot 6\text{H}_2\text{O}$ , 1061–4

**PHOSPHONIUM**

- Reaction of trithiazyl trichloride,  $(\text{NSCl})_3$ , with triphenylphosphine or triphenylphosphine metal complexes. *X*-Ray crystal structure of aminotriphenylphosphonium chloride–dichloromethane (1/1),  $[\text{Ph}_3\text{PNH}_2]\text{Cl}\cdot\text{CH}_2\text{Cl}_2$ , 1043–8

**PHOSPHORUS**

- Studies of phosphazenes. Part 21. Associative and dissociative pathways in the aminolysis reactions of halogenocyclophosphazenes, 285–90
- Phosphorus–phosphorus bond cleavage in the cage molecule  $\text{P}_4\text{S}_3$ : synthesis and crystal structure of the trinuclear platinum complex  $[\{\text{Pt}(\mu\text{-P}_4\text{S}_3)(\text{PPh}_3)_3\}_3]\cdot\text{C}_6\text{H}_6$ , 291–6
- Determination of the molecular structure of difluorophosphine sulphide by the combined analysis of data from electron diffraction, microwave spectroscopy, and liquid crystal nuclear magnetic resonance spectroscopy, 755–60
- Determination of the molecular structures of tri(*t*-butyl)phosphine oxide and tri(*t*-butyl)phosphine imide in the gas phase by electron diffraction, 827–30
- Multinuclear nuclear magnetic resonance study of the interaction of some phosphorus(v) compounds with inorganic acids. The protonating abilities of  $\text{HNO}_3$ ,  $\text{MeSO}_3\text{H}$ , and  $\text{HPO}_2\text{F}_2$  towards the phosphoryl group, 865–6
- Diastereoisomeric organophosphorus compounds. Part 4. Proton and phosphorus-31 nuclear magnetic resonance spectra of compounds of the type  $[\text{RR}'\text{P}(\text{X})_2\text{Y}]$  and  $\text{RR}'\text{P}(\text{X})\text{-Y}(\text{Z})\text{PRR}'$  ( $\text{R} = \text{CH}_3$ ,  $\text{R}' = \text{t-C}_4\text{H}_9$ ) (1984, 2803), 871–2
- A photoelectron spectroscopic study of di-*t*-butylphosphazene, 879–84
- Studies of phosphazenes. Part 22. High-field nuclear magnetic resonance investigation of novel isomeric oxophosphazadienes, 1431–4
- Mass spectrometric studies on cyclo- and poly-phosphazenes. Part 2. Oligomerization of hexa(aryloxy)cyclophosphazatrienes, 1547–54
- Intermediates in the photochemical reaction of tetraphosphorus trisulphide with organic disulphides; phosphorus-31 nuclear magnetic resonance parameters for 2,6-bis(alkylthio)- and 2,6-diiodo-3,5,7-trithia-1,2,4,6-tetraphosphabicyclo[2.2.1]heptanes and for 3,6-bis(alkylthio)-2,5,7-trithia-1,3,4,6-tetraphosphabicyclo[2.2.1]heptanes, 1707–12
- Studies of phosphazenes. Part 25. Synthesis, nuclear magnetic resonance spectroscopy, and mode of formation of (aziridino)(triphenylphosphazeno)cyclophosphazenes. *X*-ray crystal structure and enzyme-inhibiting activity of  $\text{N}_3\text{P}_3(\text{NPPH}_3)(\text{NC}_2\text{H}_4)_5$ , 1881–90
- Studies of phosphazenes. Part 21. Associative and dissociative pathways in the aminolysis reactions of halogenocyclophosphazenes (1985, 285), 2459–60

**PHOSPHORUS-31**

- Synthesis, solution structure, and halide addition compounds of bis(dicyclohexylphosphinothioite)mercury(ii), 223–4
- Lewis-base adducts of group 1B metal(i) compounds. Part 16. Synthesis, structure, and solid-state phosphorus-31 nuclear magnetic resonance spectra of some novel  $[\text{Cu}_4\text{X}_4\text{L}_4]$  ( $\text{X} = \text{halogen}$ ,  $\text{L} = \text{N}, \text{P}$  base) 'cubane' clusters, 831–8
- Diastereoisomeric organophosphorus compounds. Part 4. Proton and phosphorus-31 nuclear magnetic resonance spectra of compounds of the type  $[\text{RR}'\text{P}(\text{X})_2\text{Y}]$  and  $\text{RR}'\text{P}(\text{X})\text{-Y}(\text{Z})\text{PRR}'$  ( $\text{R} = \text{CH}_3$ ,  $\text{R}' = \text{t-C}_4\text{H}_9$ ) (1984, 2803), 871–2
- Intermediates in the photochemical reaction of tetraphosphorus

**PHOSPHORUS-31** (contd)

trisulphide with organic disulphides; phosphorus-31 nuclear magnetic resonance parameters for 2,6-bis(alkylthio)- and 2,6-di-iodo-3,5,7-trithia-1,2,4,6-tetraphosphabicyclo[2.2.1]heptanes and for 3,6-bis(alkylthio)-2,5,7-trithia-1,3,4,6-tetraphosphabicyclo[2.2.1]heptanes, 1707–12

Studies of gold cluster compounds using high-resolution  $^{31}\text{P}$  solid-state nuclear magnetic resonance spectroscopy, 1811–4

**PHOSPHORYL**

Multinuclear nuclear magnetic resonance study of the interaction of some phosphorus(v) compounds with inorganic acids. The protonating abilities of  $\text{HNO}_3$ ,  $\text{MeSO}_3\text{H}$ , and  $\text{HPO}_2\text{F}_2$  towards the phosphoryl group, 865–6

**PHOTOCHEMISTRY**

Light-induced electron-transfer reactions. Part 3. Kinetics of the oxidation reaction of oxalate ion by peroxodisulphate ion, induced by irradiation with visible light of an aqueous solution containing tris(2,2'-bipyridine)ruthenium(II), 355–60

Heteropolytungstates as catalysts for the photochemical reduction of oxygen and water, 395–400

Photochemistry of manganese porphyrins. Part 9. Redox reactions photosensitised by diamagnetic metalloporphyrins, 503–10

Absorption and emission in tris(2,2'-bipyridyl)ruthenium(II); effects of excited-state asymmetry, 1081–6

Photochemistry of dicarbonyl( $\eta^5$ -cyclopentadienyl)-methyl- and -ethyl-iron and -ruthenium complexes in solutions at  $-30^\circ\text{C}$  and in frozen gas matrices at 12 K, 1365–74

Water photolysis. Part 1. The photolysis of co-ordinated water in  $[\{\text{MnL}(\text{H}_2\text{O})\}_2][\text{ClO}_4]_2$  (L = dianion of tetradentate  $\text{O}_2\text{N}_2$ -donor Schiff bases). A model for the manganese site in photosystem II of green plant photosynthesis, 1391–8

Intermediates in the photochemical reaction of tetraphosphorus trisulphide with organic disulphides; phosphorus-31 nuclear magnetic resonance parameters for 2,6-bis(alkylthio)- and 2,6-di-iodo-3,5,7-trithia-1,2,4,6-tetraphosphabicyclo[2.2.1]heptanes and for 3,6-bis(alkylthio)-2,5,7-trithia-1,3,4,6-tetraphosphabicyclo[2.2.1]heptanes, 1707–12

New photoreduction catalysis by  $[\text{Cu}(\text{N}-\text{N})(\text{PPh}_3)_2]^+$  (N-N = 2,9-dimethyl-1,10-phenanthroline or 4,4',6,6'-tetramethyl-2,2'-bipyridine) and its application to cobalt(III) complexes, 1959–62

Preparation and characterisation of 2,2'-bipyridine-4,4'-disulphonic and -5-sulphonic acids and their ruthenium(II) complexes. Excited-state properties and excited-state electron-transfer reactions of ruthenium(II) complexes containing 2,2'-bipyridine-4,4'-disulphonic acid or 2,2'-bipyridine-4,4'-dicarboxylic acid, 2247–62

Some alkylplatinum(II) complexes and studies of the photochemical and thermal decomposition of the  $[\text{Pt}_2\text{Et}(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)_2(\text{Ph}_2\text{PCH}_2\text{PPh}_2\text{-P})]^+$  cation, 2421–6

Photochemical studies of the alkylammonium molybdates. Part 7. Octahedral sites for multi-electron reduction of  $[\text{Mo}_8\text{O}_{26}(\text{MoO}_4)_2]^{8-}$ , 2585–90

**PHOTOELECTRON**

Application of photoelectron spectroscopy to molecular properties. Part 19. Electronic structure of tris( $\alpha$ -di-imino) complexes of ruthenium(0), 43–50

Mono- $\eta$ -cycloheptatrienyltitanium chemistry: synthesis, molecular and electronic structures, and reactivity of the complexes  $[\text{Ti}(\eta\text{-C}_7\text{H}_7)_2\text{X}]$  (L = tertiary phosphine, O- or N-donor ligand; X = Cl or alkyl), 669–84

A photoelectron spectroscopic study of di-*t*-butylphosphazene, 879–84

Formation of oxidized molybdenum-bearing ferrites,  $\text{Fe}_{2.95-x}\text{Mo}_x\text{O}_4$  ( $x = 0.03$ – $0.30$ ) in aqueous suspensions by air oxidation and valence state of molybdenum ions in the lattice, 1713–16

Photoelectron spectra of the aminodifluoroboranes  $\text{NH}_2\text{BF}_2$ ,  $\text{NHMeBF}_2$ , and  $\text{NMe}_2\text{BF}_2$ , 1767–70

He I and He II photoelectron spectra of open-chain pentadienyl complexes of manganese and rhenium, 2677–82

**PHOTOSYNTHESIS**

Water photolysis. Part 1. The photolysis of co-ordinated water in  $[\{\text{MnL}(\text{H}_2\text{O})\}_2][\text{ClO}_4]_2$  (L = dianion of tetradentate  $\text{O}_2\text{N}_2$ -donor Schiff bases). A model for the manganese site in photosystem II of green plant photosynthesis, 1391–8

**PHOTOSYSTEM II**

Water photolysis. Part 1. The photolysis of co-ordinated water in  $[\{\text{MnL}(\text{H}_2\text{O})\}_2][\text{ClO}_4]_2$  (L = dianion of tetradentate  $\text{O}_2\text{N}_2$ -donor Schiff bases). A model for the manganese site in photosystem II of green plant photosynthesis, 1391–8

**PHTHALOCYANINATE**

Synthesis and physico-chemical properties of cationic derivatives of phthalocyaninatocopper(II), 651–8

Equilibrium and kinetic study of pyridine binding to phthalocyaninatoiron(II) in dimethyl sulphoxide, 1107–12

Equilibrium and kinetic study of the reaction between phthalocyaninatoiron(II) and carbon monoxide in dimethyl sulphoxide in the presence of pyridine. Evidence for the formation of a transient, 1113–8

**PHTHALOCYANINE**

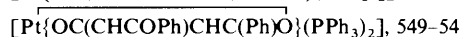
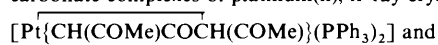
Partially oxidized group 3B fluorometallophthalocyanines, 269–74

**PIPERAZINE**

Synthesis and characterisation of uranium(IV) nitrate complexes with piperazines, 1985–8

**PLATINACYCLOBUTANONE**

Chemistry of metallacyclobutanones. Part 3. Reactions of heptane-2,4,6-trione and 1,5-diphenylpentane-1,3,5-trione with some carbonate complexes of platinum(II); X-ray crystal structures of

**PLATINUM**

The kinetics of the displacement, by chloride, of heterocyclic nitrogen bases (am) from *trans*- $[\text{PtL}(\text{am})\text{Cl}_2]$  (L =  $\text{C}_2\text{H}_5$ , CO, or  $\text{PMe}_3$ ). The effect of steric hindrance in the leaving group on the *trans* effect of L, 27–30

Insertion of carbon dioxide, of  $\text{CO}_2$ -like molecules, and of other unsaturated compounds into the platinum–nitrogen bond of  $[\text{Pt}(\text{PPh}_3)_2(\text{PhNO})]$ , 163–8

Chemistry of the unsaturated cluster compound  $[\text{Os}_3\text{Pt}(\mu\text{-H})_2(\text{CO})_{10}\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}]$ ; X-ray crystal structures of  $[\text{Os}_3\text{Pt}(\mu\text{-H})_2(\text{CO})_{11}\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}]$ ,  $[\text{Os}_3\text{Pt}(\mu\text{-H})_4(\text{CO})_{10}\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}]$ , and  $[\text{Os}_3\text{Pt}(\mu\text{-H})_2(\mu\text{-CH}_2)(\text{CO})_{10}\{\text{P}(\text{cyclo-C}_6\text{H}_{11})_3\}]$  (two isomers), 177–90

Reactions of sulphoxide–thioether bidentate ligands with platinum(II). Determination of the mode of binding by cyclic voltammetry, 209–12

Optically active co-ordination compounds. Part 43. Polysulphide complexes of platinum(IV), 253–8

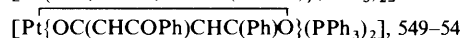
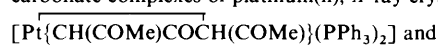
Bimetallic systems. Part 7. Platinum and palladium dicyanides containing terminal or bridging  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$  and heterobimetallics with silver, gold, mercury, rhodium, or molybdenum, 279–84

Phosphorus–phosphorus bond cleavage in the cage molecule  $\text{P}_4\text{S}_3$ : synthesis and crystal structure of the trinuclear platinum complex  $[\{\text{Pt}(\mu\text{-P}_4\text{S}_3)(\text{PPh}_3)_3\}_3\text{-C}_6\text{H}_6]$ , 291–6

Static and dynamic nuclear magnetic resonance studies of complexes of trimethylplatinum(IV) halides with olefinic thio- and seleno-ethers. X-Ray crystal structures of  $[\text{PtXMe}_3(\text{MeSeCH}=\text{CHSeMe})]$  (X = Cl or I), 345–54

Nitrosoarene complexes of ruthenium and platinum and their reactions with NO and  $\text{NO}^+$ , 401–4

Chemistry of metallacyclobutanones. Part 3. Reactions of heptane-2,4,6-trione and 1,5-diphenylpentane-1,3,5-trione with some carbonate complexes of platinum(II); X-ray crystal structures of



Synthesis, spectroscopy, and structure of the mixed-valence complexes  $[\text{Pt}^{\text{II}}(\text{en})_2][\text{Pt}^{\text{IV}}(\text{en})_2\text{X}_2][\text{Pt}^{\text{III}}_2(\text{H}_2\text{P}_2\text{O}_5)_4\text{X}_2]$  (en = 1,2-diaminoethane, X = Br or I), 579–86

Electrochemistry of clusters. Part 4. Redox behaviour of tetrametallic clusters  $[\text{M}^1_2\text{M}^2_2(\eta^5\text{-C}_5\text{H}_5)_2(\mu_3\text{-CO})_2(\mu\text{-CO})_4(\text{PR}_3)_2]$  ( $\text{M}^1 = \text{Pt}$  or Pd;  $\text{M}^2 = \text{Cr}$ , Mo, or W; R = Me, Et,  $\text{Bu}^n$ , or Ph), 711–6

Solvent extraction of gold and platinum-group metals using 2-nonylpyridine 1-oxide, and the crystal and molecular structure of bis(2-nonylpyridine 1-oxide)hydrogen(1+) tetrachloroaurate(III), 771–6

Platinum(II) complexes of nitroimidazoles: synthesis, characterisation, and X-ray crystal structures of *cis*-dichlorobis[1-(2'-hydroxyethyl)-2-hydroxymethyl-5-nitroimidazole]platinum(II) and *trans*-dichlorobis[1-(2'-hydroxy-3'-methoxypropyl)-2-nitroimidazole]platinum(II), 795–802

Interconversion of 42- and 44-electron platinum *triangulo*-clusters using chelating tertiary phosphine ligands and the structural characterisation of [1,3-bis(diphenylphosphino)propane]-tris( $\mu$ -sulphur dioxide)bis(tricyclohexylphosphine)triplatinum–benzene

**PLATINUM** (contd)

- (1/2), [Pt<sub>3</sub>(μ-SO<sub>2</sub>)<sub>3</sub>{P(C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}<sub>2</sub>(dppp)]·2C<sub>6</sub>H<sub>6</sub>, 845–50
- Chemistry of platinum sulphido-complexes. Part 5. Synthesis and crystal and molecular structure of 3-(η-cyclo-octa-1,5-diene)bis(μ<sub>3</sub>-sulphido)-1,1,2,2-tetrakis(triphenylphosphine)diplatinum(II)rhodium(I) hexafluorophosphate-dichloromethane (1/1), [Pt<sub>2</sub>Rh(μ<sub>3</sub>-S)<sub>2</sub>(PPh<sub>3</sub>)<sub>4</sub>(η-C<sub>8</sub>H<sub>16</sub>)]PF<sub>6</sub>·CH<sub>2</sub>Cl<sub>2</sub>, 851–6
- Reactions of 6,6'-bis(*nido*-decaboranyl) oxide and 6-hydroxy-*nido*-decaborane with dihalogenobis(phosphine) complexes of nickel, palladium, and platinum, and some related chemistry; nuclear magnetic resonance investigations and the crystal and molecular structures of bis(dimethylphosphine)-di-μ-(2,3,4-η<sup>3</sup>-*nido*-hexaboranyl)-diplatinum(*Pt-Pt*), [Pt<sub>2</sub>(μ-η<sup>3</sup>-B<sub>6</sub>H<sub>9</sub>)<sub>2</sub>(PMe<sub>2</sub>Ph)<sub>2</sub>], and of 2,4-dichloro-1,1-bis(dimethylphenylphosphine)-*closo*-1-nickeldecaborane, [(PhMe<sub>2</sub>P)<sub>2</sub>NiB<sub>9</sub>H<sub>9</sub>Cl<sub>2</sub>], 953–72
- Bimetallic systems. Part 10. Synthesis of complexes of type [(RC≡C)Pt(μ-dppm)<sub>2</sub>Pt(C≡CR)] (dppm = Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>, R = Ph or *p*-tolyl) and their corresponding 'A frames' [(RC≡C)Pt(μ-dppm)<sub>2</sub>(μ-H)Pt(C≡CR)]Cl or [(RC≡C)Pt(μ-dppm)<sub>2</sub>(μ-X)Pt(C≡R)] with X = CS<sub>2</sub> or MeOOC≡CCO<sub>2</sub>Me, 1015–8
- Platinum(II) complexes containing a cationic amine ligand: crystal structure of [(2-aminoethyl)ammonium]trichloroplatinum(II), 1057–60
- Synthesis, properties, and multinuclear magnetic resonance (<sup>1</sup>H, <sup>77</sup>Se, and <sup>195</sup>Pt) studies on diselenoether complexes of palladium, platinum, and rhodium, 1265–70
- Kinetic studies of oxidative dealkylation of alkylcobalamins by hexachloroplatinate(IV), 1375–80
- Synthetic and nuclear magnetic resonance studies on dialkyl- and diaryl-platinum complexes containing chelating, monodentate, or bridging Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub> ligands, 1501–6
- Synthesis and structural studies of some 1,1'-dichloroferrocene derivatives of platinum(II). Crystal and molecular structure of 2,2-μ-[(1-2,5-6-η-*cis,cis*-cyclo-octa-1,5-diene)platinio]-bis(1,1'-dichloroferrocene), 1527–30
- Bimetallic systems. Part 11. Heterobimetallic and unsymmetrical diplatinum complexes from *cis*-[PtR<sub>2</sub>(dppm-P)<sub>2</sub>] (dppm = Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>; R = Me, 1-naphthyl, or C<sub>6</sub>H<sub>4</sub>Me-*o*): crystal structure of [(C<sub>6</sub>H<sub>4</sub>Me-*o*)<sub>2</sub>Pt(μ-dppm)<sub>2</sub>PtMe<sub>2</sub>], 1677–82
- Synthesis and structural characterisation of some *triangulo*-platinum clusters containing isocyanide ligands, 1693–8
- Copper(II) salts of metal dithiolates, 1731–2
- Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 37. Methylene group transfer to carbon-metal multiple bonds; crystal structures of [TiW{μ-C(C<sub>6</sub>H<sub>4</sub>Me-4)=CH<sub>2</sub>}(μ-CO)(CO)(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>] and [PtW{μ-C(C<sub>6</sub>H<sub>4</sub>Me-4)=CH<sub>2</sub>}(CO)<sub>2</sub>(PMe<sub>3</sub>)<sub>2</sub>(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>], 2009–16
- The mechanisms of the reactions between hydrido-complexes and diazonium salts. Part 1. The reactions of *trans*-[PtH(Cl)(PEt<sub>3</sub>)<sub>2</sub>], 2059–66
- Bimetallic systems. Part 12. Mixed rhodium(I)-platinum(II) acetylide complexes containing bridging Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>. Crystal structures of [(MeC≡C)Pt(μ-dppm)<sub>2</sub>(σ,η-C≡CMe)Rh(CO)]PF<sub>6</sub> and of [ClPt(μ-dppm)<sub>2</sub>(σ,η-C≡CMe)Rh(CO)]PF<sub>6</sub>, 2121–30
- Bimetallic systems. Part 13. Platinum-manganese carbonyl complexes containing bridging Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>(dppm) ligands: crystal structure of [(OC)<sub>3</sub>Mn(μ-dppm)<sub>2</sub>PtH(Br)]BF<sub>4</sub>, 2131–8
- Synthesis, properties, and <sup>77</sup>Se nuclear magnetic resonance studies of platinum metal complexes of two isomeric tris(selenoethers), MeC(CH<sub>2</sub>SeMe)<sub>3</sub> and Se(CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>SeMe)<sub>2</sub>, 2185–90
- Some alkylplatinum(I) complexes and studies of the photochemical and thermal decomposition of the [Pt<sub>2</sub>Et(μ-Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>)<sub>2</sub>(Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>-P)]<sup>+</sup> cation, 2421–6
- Synthesis of tetra- and penta-nuclear platinum-osmium carbido-cluster complexes from non-carbido-precursors: X-ray structural studies on [Os<sub>3</sub>Pt(μ-H)<sub>2</sub>(μ<sub>4</sub>-C)(CO)<sub>10</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}], [Os<sub>3</sub>Pt<sub>2</sub>(μ-H)<sub>2</sub>(μ<sub>5</sub>-C)(μ-CO)(CO)<sub>9</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}<sub>2</sub>], and [Os<sub>3</sub>Pt<sub>2</sub>(μ-H)(μ<sub>5</sub>-C)(μ-OMe)(μ-CO)(CO)<sub>9</sub>{P(cyclo-C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}<sub>2</sub>], 2437–48
- Fragmentation of co-ordinated carbon disulphide and dithiocarbene ligands by nucleophilic attack at carbon: the crystal structure of [(Ph<sub>3</sub>P)IPt(μ-SMe)(μ-CSMe)PtI(PPh<sub>3</sub>)<sub>3</sub>]·Me<sub>2</sub>CO, 2595–602
- PLATINUM-195**
- Platinum(II) complexes of nitroimidazoles: synthesis, characterisation, and X-ray crystal structures of *cis*-dichlorobis[1-(2'-hydroxyethyl)-2-hydroxymethyl-5-nitroimidazole]platinum(II) and *trans*-dichlorobis[1-(2'-hydroxy-3'-methoxypropyl)-2-

nitroimidazole]platinum(II), 795–802

**POLYETHER**

Co-ordination of alkali metals by open-chain polyethers in transition metal complexes. Part 4. Variation in alkali-metal ion selectivity in cobalt and zinc complexes of 1-(*o*-carboxymethoxyphenoxy)-2-(*o*-hydroxyphenoxy)ethane (HL) and the X-ray and molecular structure of [Zn(NH<sub>4</sub>L<sub>2</sub>)<sub>2</sub>], 459–64

**POLYIODE**

Reaction of bis(morpholinothiocarbonyl) disulphide with iodine. Existence of a 1:1 charge-transfer precursory adduct in an oxidation reaction. Isolation and crystal structure of bis[3,5-di(*N*-morpholinio)-1,2,4-trithiolane] hexadecaiodide, 1349–54

**POLYMER**

Electron spin resonance spectra of manganese(II) ions in the double-stranded chain polymers CdLX<sub>2</sub> (L = pyridine or methylpyridine; X = Cl or Br), 75–80

Sulphur ligand-metal complexes. Part 16. Copper complexes of thioethers and the single-crystal X-ray structure of the polymeric mixed-valence complex, penta-μ-chloro-tris-μ-tetrahydrothiophene-tetracopper(II), 151–8

Characterization of the adducts formed by Cu(CN) and Cu(NCS) with biquinoline. The crystal structure of the polymeric cyanocompound containing both linear and tetrahedrally co-ordinated copper(I), [(Cu<sub>3</sub>(bq)<sub>2</sub>(CN)<sub>3</sub>]<sub>n</sub>, 1285–8

The concentration and selective extraction of copper(II), rhodium(III), and iridium(III) using a copolymer functionalised with dithiocarbamate groups. Spectroscopic evidence for the nature of the binding sites, 1655–60

**POLYPHOSPHANE**

Macrocyclic polyphosphane ligands. Cobalt(II) and nickel(II) complexes of the γ and ε diastereoisomers of 4,7,13,16-tetraphenyl-4,7,13,16-tetraphospha-1,10-dithiacyclo-octadecane (L<sup>1</sup>) and the crystal structure of [Co(e-L<sup>1</sup>)]<sub>2</sub>[BPh<sub>4</sub>]<sub>2</sub>·EtOH, 1425–30

**POLYSULPHIDE**

Optically active co-ordination compounds. Part 43. Polysulphide complexes of platinum(IV), 253–8

**PORPHYRIN**

Rate parameters for oxygen and carbon monoxide binding to a liposome-embedded heme under physiological conditions, 65–8

Phosphocholine-substituted 5,10,15,20-tetraphenylporphyrinatoiron(II): oxygen carrier under physiological conditions, 275–8

Photochemistry of manganese porphyrins. Part 9. Redox reactions photosensitised by diamagnetic metalloporphyrins, 503–10

Reactions of cobalt(II) protoporphyrin IX dimethyl ester, [Co<sup>II</sup>P], and [Co<sup>III</sup>P(Cl)] in co-ordinating aliphatic alcohols, 1095–102

A mechanistic study of the reaction of iron(III) porphyrins with imidazoles. Hydrogen bonding by the propionic acid side chains in hemin chloride, 2269–76

**PORPHYRINATE**

Dismutation of superoxide ion in an aprotic solvent by 5,10,15,20-tetra-*p*-tolylporphyrinatocobalt(II), 1513–6

**PROCYCLIDINE**

Sila-pharmaca. Part 32. Crystal and molecular structures of the (*R*)-enantiomer and the racemate of the antimuscarinic agent (cyclohexyl)phenyl[2-(pyrrolidin-1-yl)ethyl]silanol (sila-procyclidine), 1743–6

**PROGRAM**

SUPERQUAD: an improved general program for computation of formation constants from potentiometric data, 1195–200

**PROLINE**

The L-proline residue as a 'break-point' in metal-peptide systems, 535–40

Specific binding of the tyrosine residue in copper(II) complexes of Tyr-Pro-Gly-Tyr and Tyr-Gly-Pro-Tyr, 1201–6

**PROPANOLATE**

Crystal and molecular structures and magnetic properties of four new exchange-coupled copper(II) complexes derived from different 3-*N,N*-dialkylamino-1-propanols and pseudohalogen, 1243–8

**PROPENYLIDENE**

Carbon-carbon formation at di-iron centres. Part 2. Reactivity of [Fe<sub>2</sub>(CO)<sub>6</sub>(μ-COEt){μ-C(R)C(R)H}] complexes toward MeOC(O)C≡CC(O)OMe (R = Ph) and CF<sub>3</sub>C≡CCF<sub>3</sub> (R = Ph or H); X-ray crystal structures of [Fe<sub>2</sub>(CO)<sub>5</sub>{μ-C(OEt)C(C(O)OMe)C(C(O)OMe)}]{μ-C(Ph)C(Ph)H}]·H<sub>2</sub>O and [Fe<sub>2</sub>(CO)<sub>6</sub>{μ-C(CF<sub>3</sub>)C(CF<sub>3</sub>)CHCHCH(OMe)}], 1087–94

**PROTONATION**

Multinuclear nuclear magnetic resonance study of the interaction of some phosphorus(v) compounds with inorganic acids. The protonating abilities of  $\text{HNO}_3$ ,  $\text{MeSO}_3\text{H}$ , and  $\text{HPO}_2\text{F}_2$  towards the phosphoryl group, 865-6

The reaction of  $[\text{Os}_3(\mu\text{-H})_2(\text{CO})_9\text{L}]$  ( $\text{L} = \text{CO}$  or  $\text{PEt}_3$ ) with dimethylcyanamide,  $\text{Me}_2\text{NCN}$ : *X*-Ray crystal structure of  $[\text{Os}_3(\mu\text{-H})(\mu\text{-NCHNMe}_2)(\text{CO})_{10}]$  and the reactions of this complex with acids, 1355-60

**PULSE RADIOLYSIS**

One-electron reduction of nickel(IV) oxime complexes, 2213-6

**PURINE**

The crystal structure of diaquadichlorodimethyltin(IV)-purine (1/4), 1271-4

**PYRAZINE**

Mixed-ligand complexes of trivalent lanthanides. Part 3. Complexes of heptafluorodimethyloctane-3,5-dione and pyrazine: syntheses and spectral studies, 2547-50

**PYRAZOLATE**

Spectroscopic and magnetic properties of cobalt(II) and nickel(II) clusters obtained from 1-(hydroxymethyl)-3,5-dimethylpyrazole. *X*-Ray structure of tetrakis[chloro( $\mu_3$ -3,5-dimethyl-*N*-oxymethylpyrazolato-*N*<sup>2</sup>, $\mu_3$ -*O*)(ethanol)nickel(II)] 737-42

**PYRAZOLE**

Transition-metal co-ordination compounds of a novel aniline-based pyrazole derivative. *X*-Ray crystal structures of [*NN*-bis(3,5-dimethylpyrazol-1-ylmethyl)aminobenzene]-dichlorocobalt(II) and -dibromocopper(II), 1699-706

**PYRAZOLYL**

Co-ordination chemistry of dimethylgold(III). Synthesis, structural studies, and fluxional behaviour of complexes with polydentate ligands, 1183-90

Electrochemical and chemical properties of di-iodonitrosyl[tris(3,5-dimethylpyrazolyl)borato]molybdenum,  $[\text{Mo}\{\text{HB}(\text{Me}_2\text{pz})_3\}(\text{NO})]_2$ , and related complexes, 1249-54

Unidentate *versus* symmetrically and unsymmetrically bidentate nitrate co-ordination in pyrazole-containing chelates. The crystal and molecular structures of (nitrate-*O*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]copper(II) nitrate, (nitrate-*O,O'*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]nickel(II) nitrate, and (nitrate-*O*)(nitrate-*O,O'*)[tris(3,5-dimethylpyrazol-1-ylmethyl)amine]cadmium(II), 2177-84

Copper complexes with quadridentate bis(pyrazolyl)thioether amine and tris(pyrazolyl)amine ligands. Structural characterization of the complexes  $[\text{Cu}(\text{NCS})(\text{tpea})][\text{Cu}(\text{NCS})_2]$  and  $[\text{CuCl}(\text{bdma})]\text{Cl}\cdot 2\text{H}_2\text{O}$ , 2327-32

**PYRIDINE**

The kinetics of the displacement, by chloride, of heterocyclic nitrogen bases (am) from *trans*-[PtL(am)Cl<sub>2</sub>] ( $\text{L} = \text{C}_2\text{H}_4$ , CO, or  $\text{PMe}_3$ ). The effect of steric hindrance in the leaving group on the *trans* effect of L, 27-30

Electron spin resonance spectra of manganese(II) ions in the double-stranded chain polymers  $\text{CdLX}_2$  ( $\text{L} = \text{pyridine}$  or methylpyridine;  $\text{X} = \text{Cl}$  or  $\text{Br}$ ), 75-80

Lewis-base adducts of Group 1B metal(I) compounds. Part 13. Crystal structure determinations of tetrakis(triphenyl-phosphine)-copper(I) and -silver(I) perchlorates, bis(pyridine)bis(triphenylphosphine)copper(I) perchlorate, (2,2'-bipyridyl)bis(triphenylphosphine)copper(I) perchlorate, and tetrahydroboratobis(triphenylphosphine)copper(I)-pyridine (1/0.5), 125-34

Dinuclear mono- $\mu$ -chloro-pyridyldiaza rhodium(I) complexes derived from pyridyldi-imines *via* hydrogen transfer from ethanol, 1053-6

Equilibrium and kinetic study of pyridine binding to phthalocyaninatoiron(II) in dimethyl sulphoxide, 1107-12

Structure and solvation of mercury(II) iodide, bromide, and chloride in pyridine solution; refinement of the crystal structure of di-iodobis(pyridine)mercury(II),  $[\text{HgI}_2(\text{py})_2]$ , 1597-604

Equilibria between mono- and bi-nuclear complexes in  $\text{Cu}(\text{O}_2\text{CMe})_2$ -pyridine derivative-diluent systems. The influence of the amine ligand basicity, 1849-52

Studies on spin-equilibrium iron(III) complexes. Part 1. Syntheses and magnetic properties of a new family of spin cross-over iron(III) complexes with a unidentate ligand over a wide range of the spectrochemical series and a quinquedentate ligand derived from salicylaldehyde and di(3-aminopropyl)amine. *X*-Ray crystal structure of [4-azaheptamethylene-1,7-bis(salicylideneiminato)](4-methylpyridine)iron(III) tetraphenylborate, 2575-84

**PYRIDINECARBOXYLATE**

Electrophilic nitrosyls: preparation, structure, and reactivity of *cis*-chloronitrosylbis(pyridine-2-carboxylato)ruthenium and related complexes, 2427-32

**PYRIDINEMETHANOL**

Displacement of pyridine-2-methanol from dichloro(pyridine-2-methanolato)gold(III) in acidic solution. Ring opening at oxygen, 731-6

**PYRIDINE OXIDE**

Short hydrogen bonds: diadducts of substituted pyridine *N*-oxides: synthesis, spectroscopic studies, and *X*-ray structure, 749-54

**PYRIDINETHIOLATE**

Complexes of the platinum metals. Part 29. Pyridine-2-thiolate derivatives of ruthenium and osmium: *X*-ray crystal structures of  $[\text{Ru}(\text{C}_5\text{H}_4\text{NS})_2(\text{CO})_2(\text{PPh}_3)]$  and  $[\text{Ru}(\text{C}_5\text{H}_4\text{NS})_2(\text{CO})(\text{PPh}_3)]$ , 2101-12

**PYRIDOXYLIDENEGLYCINATE**

Metal complexes of vitamin B<sub>6</sub> related compounds. Crystal and molecular structures of aqua(5'-phosphopyridoxylidene)glycinate)copper(II) trihydrate and bis(pyridoxylidene)glycinate)nickel(II) hexahydrate, 2051-8

**PYRIDYL**

Co-ordination chemistry of dimethylgold(III). Synthesis, structural studies, and fluxional behaviour of complexes with polydentate ligands, 1183-90

**PYRIDYLAZORESORCINOL**

Kinetics and mechanisms of complex formation of gallium(III) and indium(III). The reactions with 4-(2-pyridylazo)resorcinol in water and other mixed solvents, 2615-22

**PYRROLIDINE**

Reactions of tris[(2*S*)-2-(aminomethyl)pyrrolidine]nickel(II) ion with alk-3-en-2-ones or 4-hydroxyalkan-2-ones: formation of an optically active tetra-aza macrocycle, 2139-44

**PYRROLOPYRIDINATE**

1*H*-pyrrolo[2,3-*b*]pyridine (HL) ligands in rhodium(I) and iridium(I) chemistry. Crystal and molecular structures of  $[\text{Rh}_2(\mu\text{-L})_2(\text{nbd})_2]$  and  $[\text{Rh}_4(\mu\text{-Cl})_2(\mu\text{-L})_2(\mu\text{-CO})_2(\text{CO})_2(\text{nbd})_2]$ , 1891-8

**RADICAL CATION**

Structure and relative energies of some nitrogen-containing radical cations by MNDO calculation, 1915-22

**RADIOLYSIS**

Kinetics and mechanism of single electron oxidations of the tervalent uranium ion,  $\text{U}^{3+}(\text{aq})$ , by free radicals in aqueous solutions, 641-4

**RAMAN**

Synthesis, spectroscopy, and structure of the mixed-valence complexes  $[\text{Pt}^{\text{II}}(\text{en})_2][\text{Pt}^{\text{IV}}(\text{en})_2\text{X}_2][\text{Pt}^{\text{III}}_2(\text{H}_2\text{P}_2\text{O}_5)_4\text{X}_2]$  ( $\text{en} = 1,2$ -diaminoethane,  $\text{X} = \text{Br}$  or  $\text{I}$ ), 579-86

Spectrochemistry of solutions. Part 16. A Raman spectroscopic study of the complexation of mercury(II) by cyanide ligands in liquid ammonia at 293 K, 663-8

Palladium(II,IV) mixed-valence complexes of 1,2-diaminoethane, 1,3-diaminopropane, and diethylenetriamine: syntheses, electronic, infrared, Raman, and resonance Raman spectra and *X*-ray studies, 815-20

Preparation and vibrational spectra of  $[\text{OsX}_6]^{3-}$  ( $\text{X} = \text{Cl}$ ,  $\text{Br}$ , or  $\text{I}$ ) and of other platinum-group hexahalogeno-complexes, 1673-6

Fundamental vibrations of six- and seven-membered selenium sulphide ring molecules, 1869-76

**RARE EARTH**

Preparation, characterization, and physical properties of the series  $\text{MPd}_3\text{S}_4$  ( $\text{M} = \text{rare earth}$ ), 2369-74

**REDOX POTENTIAL**

Solvent effects on the redox potential of the uranium(VI)-uranium(V) couple, 601-4

**REDUCTION**

Heteropolytungstates as catalysts for the photochemical reduction of oxygen and water, 395-400

The synthesis of  $\text{NR}_4[(\text{Ta}_6\text{Cl}_{12})(\text{H}_2\text{O})_6]\text{X}_4$  ( $\text{R} = \text{Me}$  or  $\text{Et}$ ,  $\text{X} = \text{Cl}$  or  $\text{Br}$ ) by the spontaneous reduction of  $[\text{Ta}_6\text{Cl}_{12}]^{4+}$  to  $[\text{Ta}_6\text{Cl}_{12}]^{3+}$  in acidic media: *X*-ray structure analysis of  $\text{NMe}_4[(\text{Ta}_6\text{Cl}_{12})(\text{H}_2\text{O})_6]\text{Br}_4$ , 455-8

Preparation of 1,3,2-dithiazolium hexafluoroarsenate(V), preparation and crystal structures of 5-methyl-1,3,2,4-dithiadiazolium and 4-methyl-1,3,2-dithiazolium hexafluoroarsenate(V) and the reduction of these salts to stable free radicals, 1405-16

Bimetallic cyano-bridged cations: preparation and hydride reduction of  $[(\eta^5\text{-C}_5\text{H}_5)_2\text{Ru}(\mu\text{-CN})\text{ML}'_2(\eta^5\text{-C}_5\text{H}_5)]\text{PF}_6$  [ $\text{L}_2, \text{L}'_2$



**REDUCTION**

= (PPh<sub>3</sub>)<sub>2</sub>, Ph<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>PPh<sub>2</sub>; M = Ru or Fe]. Formation of [Ru(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)(PPh<sub>3</sub>)H<sub>3</sub>] and X-ray crystal structure of [(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)(Ph<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>PPh<sub>2</sub>)Ru(μ-CN)Ru(PPh<sub>3</sub>)<sub>2</sub>(η<sup>5</sup>-C<sub>5</sub>H<sub>5</sub>)]PF<sub>6</sub>, 1479–86

The synthesis of NR<sub>4</sub>[(Ta<sub>6</sub>Cl<sub>12</sub>)(H<sub>2</sub>O)<sub>6</sub>]X<sub>4</sub> (R = Me or Et, X = Cl or Br) by the spontaneous reduction of [Ta<sub>6</sub>Cl<sub>12</sub>]<sup>4+</sup> to [Ta<sub>6</sub>Cl<sub>12</sub>]<sup>3+</sup> in acidic media: X-ray structure analysis of NMe<sub>4</sub>[(Ta<sub>6</sub>Cl<sub>12</sub>)(H<sub>2</sub>O)<sub>6</sub>]Br<sub>4</sub> (1985, 455), 1531–2

Kinetics and mechanism of the reductions of tris(oxalato)cobaltate(III) ion by ruthenium(II) species in aqueous solution, 1665–8

A new reaction of nitrosyl complexes; one-electron reduction of *trans*-[MX(NO)L<sub>4</sub>]<sup>2+</sup> [M = Ru or Fe, X = Cl or Br, L = pyridine or *o*-phenylenebis(dimethylarsine)] with hydroxylamine, 1733–4

The kinetics and stoichiometry of silver(III) reduction by the octacyano-complexes of molybdenum(IV) and tungsten(IV), 1789–94

New photoreduction catalysis by [Cu(N–N)(PPh<sub>3</sub>)<sub>2</sub>]<sup>+</sup> (N–N = 2,9-dimethyl-1,10-phenanthroline or 4,4',6,6'-tetramethyl-2,2'-bipyridine) and its application to cobalt(III) complexes, 1959–62

The easy catalytic reduction of HClO<sub>4</sub>, HNO<sub>3</sub>, and H<sub>5</sub>IO<sub>6</sub> by CO in the presence of [Pd<sub>3</sub>(O<sub>2</sub>CMe)<sub>6</sub>], 1971–4

One-electron reduction of nickel(IV) oxime complexes, 2213–6

**RELAXATION**

Carbon-13 nuclear magnetic resonance evidence of a relaxation process dominated by scalar coupling with a quadrupolar nucleus in [Re<sub>3</sub>(μ-H)<sub>4</sub>(CO)<sub>10</sub>]<sup>–</sup>, 1899–902

**RESOLUTION**

Optical resolution of DL-2,2'-bipiperidine through its cobalt(III) complex, 895–8

**RESORCINOL**

Coloured species formed from the titanium(IV)-4-(2'-pyridylazo)resorcinol reagent in the spectrophotometric determination of trace amounts of hydrogen peroxide, 81–4

**RHENADECABORANE**

Polyhedral rhenaborane chemistry: crystal and molecular structures of the *nido*-6-rhenadecaborane cluster compounds [6,6,6,6-(PMe<sub>2</sub>Ph)<sub>3</sub>H-*nido*-6-ReB<sub>9</sub>H<sub>13</sub>] and [2-(PMe<sub>2</sub>Ph)-6,6,6,6-(PMe<sub>2</sub>Ph)<sub>3</sub>ClH-*nido*-6-ReB<sub>9</sub>H<sub>12</sub>]; nuclear magnetic resonance parameters of these and other related *nido*-rhenadecaborane cluster species, 1119–30

**RHENIUM**

Trimethylphosphine polyhydrides of tungsten and rhenium, 587–90

Reaction of transition-metal carbonylate anions and 1,1,1-tris(halogenomethyl)ethane. X-Ray crystal structures of tricarbonyl(η<sup>5</sup>-cyclopentadienyl)(1-methylcyclopropylmethyl)tungsten(II), and tetraethylammonium enneacarbonyliododirhenate(O), 931–40

The preparation and properties of some diphosphines R<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>PR<sub>2</sub> (R = alkyl or aryl) and of their rhenium(II) dinitrogen derivatives, 1131–6

Reactivity of the unsaturated anion decacarbonyltetra-μ-hydrido-trirhenate(1–) toward phenols. Crystal and molecular structures of the tetraethylammonium salts of the triangular cluster anion [Re<sub>3</sub>(μ-H)<sub>3</sub>(μ-OC<sub>6</sub>F<sub>5</sub>)(CO)<sub>10</sub>]<sup>–</sup> and of the binuclear anion [Re<sub>2</sub>(μ-OC<sub>6</sub>H<sub>5</sub>)(CO)<sub>6</sub>]<sup>–</sup>, 1507–12

Rhenium nitrosyl complexes with simple and with sterically demanding aromatic thiolate ligands: X-ray crystal structures of [PPh<sub>4</sub>][Re<sub>2</sub>(SC<sub>6</sub>H<sub>4</sub>Me-4)<sub>2</sub>(NO)<sub>2</sub>·CH<sub>2</sub>Cl<sub>2</sub>] and [Re(SC<sub>6</sub>H<sub>3</sub>Pr<sup>2</sup>-2,6)<sub>4</sub>(NO)], 1533–42

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 36. Reactions of the dimetal compounds [ReM(=CC<sub>6</sub>H<sub>4</sub>Me-4)(CO)<sub>5</sub>] (M = Cr, Mo, or W) with octacarbonyldicobalt; crystal structures of [Co<sub>2</sub>WRe(μ<sub>3</sub>-CC<sub>6</sub>H<sub>4</sub>Me-4)(CO)<sub>15</sub>] and [Co<sub>2</sub>Re(μ<sub>3</sub>-CC<sub>6</sub>H<sub>4</sub>Me-4)(CO)<sub>10</sub>], 2001–8

Trimethylphosphine as a reactive solvent: synthesis, crystal structures, and reactions of [Ta(PMe<sub>3</sub>)<sub>3</sub>(η<sup>2</sup>-CH<sub>2</sub>PMe<sub>2</sub>)(η<sup>2</sup>-CHPMe<sub>2</sub>)] and [W(PMe<sub>3</sub>)<sub>4</sub>(η<sup>2</sup>-CH<sub>2</sub>PMe<sub>2</sub>)H] and related studies, 2025–36

Preparation and properties of *mer*-[ReCl(N<sub>2</sub>)(CNR){P(OMe)<sub>3</sub>}] (R = Me, Et, Bu<sup>t</sup>, C<sub>6</sub>H<sub>4</sub>Me-4, or C<sub>6</sub>H<sub>4</sub>Cl-4) and [ReCl(N<sub>2</sub>)(CNMe)(PPh<sub>3</sub>)]<sub>2</sub>[P(OEt)<sub>3</sub>]<sub>2</sub>. X-Ray crystal structure of *mer*-[ReCl(N<sub>2</sub>)(CNMe){P(OMe)<sub>3</sub>}]<sub>2</sub> and reductive cleavage of the isocyanide ligands to primary amines upon protonation, 2079–84

Oxoalkyls of rhenium(-v) and (-vi). X-Ray crystal structures of

(Me<sub>4</sub>ReO)<sub>2</sub>Mg(thf)<sub>4</sub>, [(Me<sub>3</sub>SiCH<sub>2</sub>)<sub>4</sub>ReO]<sub>2</sub>Mg(thf)<sub>2</sub>, Re<sub>2</sub>O<sub>3</sub>Me<sub>6</sub>, and Re<sub>2</sub>O<sub>3</sub>(CH<sub>2</sub>SiMe<sub>3</sub>)<sub>6</sub>, 2167–76

The palladium-catalysed reaction between [Re<sub>2</sub>(CO)<sub>10</sub>] and phosphines and the crystal and molecular structure of diaxial [Re<sub>2</sub>(CO)<sub>8</sub>(PMe<sub>2</sub>Ph)<sub>2</sub>], 2277–82

Rhenium nitrido-, arylimido-, nitrile, and carbonyl complexes with sterically hindered thiolate ligands, 2305–10

Nitrogen-15 nuclear magnetic resonance relaxation mechanisms in dinitrogen complexes of molybdenum, tungsten, rhenium, and osmium, 2473–8

Molybdenum, rhenium, and tungsten complexes with bi- and tridentate phosphinothiolato-ligands; structures of [Mo{PhP(CH<sub>2</sub>CH<sub>2</sub>S)<sub>2</sub>}<sub>2</sub>] and [Mo(NNMe<sub>2</sub>){PhP(CH<sub>2</sub>CH<sub>2</sub>S)<sub>2</sub>}<sub>2</sub>], 2647–54

He I and He II photoelectron spectra of open-chain pentadienyl complexes of manganese and rhenium, 2677–82

**RHODIUM**

Carbene complexes. Part 18. Synthetic routes to electron-rich olefin-derived monocarbenerhodium(I) neutral and cationic complexes and their chemical and physical properties (1984, 2355), 229–30

Bimetallic systems. Part 8. Heterobimetallic di-isonitrile or isonitrile-carbonyl complexes of rhodium or iridium bridged to silver or gold by Ph<sub>2</sub>PCH<sub>2</sub>PPh<sub>2</sub>, 511–6

Complexes of the platinum metals. Part 23. Synthesis of the nitrosyl carboxylate complexes [M(O<sub>2</sub>CR)<sub>2</sub>(NO)(PPh<sub>3</sub>)<sub>2</sub>] (M = Rh or Ir; R = CF<sub>3</sub>, C<sub>2</sub>F<sub>5</sub>, or C<sub>6</sub>F<sub>5</sub>); crystal and molecular structures of the trifluoroacetate derivatives [M(O<sub>2</sub>CCF<sub>3</sub>)<sub>2</sub>(NO)(PPh<sub>3</sub>)<sub>2</sub>], 611–6

Complexes of the platinum metals. Part 24. The role of dioxygen in the reactions of trifluoroacetic acid with the rhodium and iridium nitrosyls [M(NO)(PPh<sub>3</sub>)<sub>3</sub>], 617–20

Complexes of the platinum metals. Part 26. Multinuclear nuclear magnetic resonance studies on rhodium(II) carboxylate adducts, 629–34

Synthesis and X-ray structural studies on the cluster compounds [RuRh<sub>3</sub>(μ<sub>3</sub>-CO)<sub>2</sub>(CO)<sub>3</sub>(η-C<sub>5</sub>Me<sub>5</sub>)<sub>3</sub>] and [RuRh<sub>2</sub>(μ-CO)(μ<sub>3</sub>-CO)(CO)<sub>2</sub>(η<sup>4</sup>-C<sub>8</sub>H<sub>10</sub>)(η-C<sub>5</sub>Me<sub>5</sub>)<sub>3</sub>], 645–50

Studies on transition-metal cyano-complexes. Part 4. Cyanide hydride complexes of Groups 6A and 8, 717–22

Chemistry of platinum sulphido-complexes. Part 5. Synthesis and crystal and molecular structure of 3-(η-cyclo-octa-1,5-diene)bis(μ<sub>3</sub>-sulphido)-1,1,2,2-

tetrakis(triphenylphosphine)diplatinum(II)rhodium(I) hexafluorophosphate-dichloromethane (1/1), [Pt<sub>2</sub>Rh(μ<sub>3</sub>-S)<sub>2</sub>(PPh<sub>3</sub>)<sub>4</sub>(η-C<sub>8</sub>H<sub>12</sub>)]PF<sub>6</sub>·CH<sub>2</sub>Cl<sub>2</sub>, 851–6

Correlation between structure and circular dichroism. Structure and absolute configuration of the (–) isomer of lithium (ethylenediamine-*N,N*-diacetato-*N,N*-di-3-propionato)rhodate(III) pentahydrate, 861–4

Pyrazolate A-frame rhodium complexes. Crystal structures of [Rh<sub>2</sub>(μ-dmpz)(CO)<sub>2</sub>(μ-dppm)<sub>2</sub>][ClO<sub>4</sub>] and [Rh<sub>2</sub>(μ-dmpz)<sub>2</sub>(CO)<sub>2</sub>(μ-dppm)<sub>2</sub>][ClO<sub>4</sub>], 973–80

Dinuclear mono-μ-chloro-pyridyldiaza rhodium(I) complexes derived from pyridyldi-imines *via* hydrogen transfer from ethanol, 1053–6

Synthesis, properties, and multinuclear magnetic resonance (<sup>1</sup>H, <sup>77</sup>Se, and <sup>195</sup>Pt) studies on dielsoether complexes of palladium, platinum, and rhodium, 1265–70

Fluorophosphine complexes of rhodium(I) and iridium(I): towards the design of systems with extended metal-metal interactions. The crystal structure of [IrCl(PF<sub>3</sub>)<sub>2</sub>]<sub>2</sub>, 1295–302

New carbide clusters in the cobalt sub-group. Part 15. Synthesis and crystallographic characterization of di-μ<sub>6</sub>-carbido-deca-μ-carbonyl-tridecacarbonyl-*polyhedro*-dodecarhodate(4–) as its tetrapropylammonium salt, [N(C<sub>3</sub>H<sub>7</sub>)<sub>4</sub>]<sub>4</sub>[Rh<sub>12</sub>C<sub>2</sub>(CO)<sub>23</sub>], 1309–14

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 33. Reactions of [W(≡CMe)(CO)<sub>2</sub>(η-C<sub>5</sub>H<sub>5</sub>)] with the dimetal compounds [MRh(μ-CO)<sub>2</sub>(η-C<sub>5</sub>Me<sub>5</sub>)<sub>2</sub>] (M = Co or Rh); X-ray crystal structure of [Rh<sub>2</sub>W(μ-CO)(μ<sub>3</sub>-CMe)(CO)<sub>2</sub>(η-C<sub>5</sub>H<sub>5</sub>)(η-C<sub>5</sub>Me<sub>5</sub>)<sub>2</sub>], 1315–22

Benzamidatorhodium complexes. X-Ray structures of [Rh{CPh(NPh)<sub>2</sub>}<sub>2</sub>(cod)] and [Rh<sub>2</sub>{μ-CPh(NPh)<sub>2</sub>}<sub>2</sub>(tfbb)<sub>2</sub>], 1487–94

Mono- and di-nuclear rhodium and palladium complexes of macrocyclic ligands containing the 2,6-di(thiomethyl)pyridine sub-unit, 1517–22

The syntheses and characterisation of, and the determination of

**RHODIUM** (contd)

- $^1J(^{103}\text{Rh}-^{103}\text{Rh})$  in  $(\eta^5\text{-C}_5\text{Me}_5)_2\text{Rh}_2(\mu\text{-CH}_2)_2\{\mu\text{-CH}_2\text{CR}(\text{CH}_2\text{CR}=\text{CH}_2)\text{CH}_2\}$  (R = H or Me) and  $(\eta^5\text{-C}_5\text{Me}_5)_2\text{Rh}_2(\mu\text{-CH}_2)_2\{\mu\text{-Ph}_2\text{P}(\text{CH}_2)_n\text{PPh}_2\}$  ( $n = 1$  or  $2$ ), 1555-60
- Synthesis of bis[ $\mu$ -bis(diphenylphosphino)methane]-tri- $\mu$ -carbonyl-tricarbonyl-*triangular*-trirhodium(1+) perchlorate,  $[\text{Rh}_3(\text{CO})_3(\mu\text{-CO})_3(\mu\text{-dppm})_2]\text{ClO}_4$ . An unusual 46-electron cluster possessing the A-frame structure with a bridging  $\text{Rh}(\text{CO})_3$  fragment, 1577-84
- Oxygenation studies. Part 7. Catalytic dioxygenation of cyclo-octa-1,5-diene at a rhodium centre, 1591-6
- The concentration and selective extraction of copper(II), rhodium(III), and iridium(III) using a copolymer functionalised with dithiocarbamate groups. Spectroscopic evidence for the nature of the binding sites, 1655-60
- Preparation and vibrational spectra of  $[\text{OsX}_6]^{3-}$  (X = Cl, Br, or I) and of other platinum-group hexahalogeno-complexes, 1673-6
- Dirhodium(II,II) tetra-acetate complexes with axially co-ordinated triphenylstibine, triphenylarsine, and dibenzyl sulphide ligands. The syntheses, properties, and X-ray crystal structures of  $[\text{Rh}_2(\text{O}_2\text{CMe})_4(\text{SbPh}_3)_2]$ ,  $[\text{Rh}_2(\text{O}_2\text{CMe})_4(\text{AsPh}_3)_2]$ , and  $[\text{Rh}_2(\text{O}_2\text{CMe})_4\{\text{S}(\text{CH}_2\text{Ph})_2\}_2]$ , 1775-80
- 1*H*-pyrrolo[2,3-*b*]pyridine (HL) ligands in rhodium(I) and iridium(I) chemistry. Crystal and molecular structures of  $[\text{Rh}_2(\mu\text{-L})_2(\text{nbdt})_2]$  and  $[\text{Rh}_4(\mu\text{-Cl})_2(\mu\text{-L})_2(\mu\text{-CO})_2(\text{CO})_2(\text{nbdt})_2]$ , 1891-8
- Isolation and crystal structure of  $[\text{Rh}(\text{PPh}_3)_3(\text{MeCN})][\text{BF}_4]$ , acetonitriletris(triphenylphosphine)rhodium(I) tetrafluoroborate, 1977-80
- The mechanisms of the reactions between hydrido-complexes and diazonium salts. Part 2. The reactions of *cis,mer*- $[\text{RhHCl}_2(\text{PEtPh}_2)_3]$ , 2067-78
- Complexes of the platinum metals. Part 30. Fragmentation reactions of rhodium and iridium trichloro- and tribromoacetates, 2113-20
- Bimetallic systems. Part 12. Mixed rhodium(I)-platinum(II) acetylides containing bridging  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$ . Crystal structures of  $[(\text{MeC}\equiv\text{C})\text{Pt}(\mu\text{-dppm})_2(\sigma,\eta\text{-C}\equiv\text{CMe})\text{Rh}(\text{CO})]\text{PF}_6$  and of  $[\text{ClPt}(\mu\text{-dppm})_2(\sigma,\eta\text{-C}\equiv\text{CMe})\text{Rh}(\text{CO})]\text{PF}_6$ , 2121-30
- Stereochemical consequences of the two-electron oxidation of a dirhodium fulvalene complex: the X-ray crystal structures of *trans*- $[\text{Rh}_2(\text{CO})_2(\text{PPh}_3)_2(\eta^5\text{-}\eta^5\text{-C}_{10}\text{H}_8)]$  and *cis*- $[\text{Rh}_2(\text{CO})_2(\text{PPh}_3)_2(\eta^5\text{-}\eta^5\text{-C}_{10}\text{H}_8)]\text{PF}_6$ , 2283-90
- Reactions of co-ordinated ligands. Part 35. Evidence for carbon-carbon double-bond cleavage of cyclopropenes in their reaction with dinuclear cobalt, rhodium, and iridium complexes; crystal structure and protolysis of  $[\text{Rh}_2(\mu\text{-CO})(\mu\text{-COCHCMe}_2\text{CH})(\mu\text{-C}_5\text{Me}_5)_2]$ , 2483-92
- RING OPENING**
- Reduction-oxidation properties of organotransition-metal complexes. Part 20. Oxidative and thermolytic cyclopropane ring-opening reactions; X-ray crystal structure of  $[\text{Fe}_2(\text{CO})_6(\eta^4\text{-}\eta^4\text{-C}_6\text{H}_8)]$ , 699-706
- Annelation of ring-opened arylcyclopropenium ions to co-ordinated cyclo-octatetraene, and the X-ray crystal structure of  $[\text{Fe}(\text{CO})_3(\sigma,\eta^3\text{-C}_{11}\text{H}_5\text{P}_3)]$ , 777-82
- RUTHENABORANE**
- Polyhedral ruthenaborane chemistry: characterization of several new ruthenaboranes by nuclear magnetic resonance spectroscopy, and the crystal and molecular structure of  $[\text{5,6,6-(PPh}_3)_3\text{-6-H-nido-6-RuB}_9\text{H}_{12}]$ , 2397-406
- Two unusual *closo*-type ruthenaboranes: preparation, molecular structure, and nuclear magnetic resonance properties of  $[\text{1,1,1-(PPh}_3)\text{HCl-1-RuB}_9\text{H}_7\text{-3,5-(PPh}_3)_2]$  and  $[\text{1,1-(PPh}_3)_2\text{-1-RuB}_{10}\text{H}_8\text{-2,5-(OEt)}_2]$ , 2407-16
- RUTHENIUM**
- Application of photoelectron spectroscopy to molecular properties. Part 19. Electronic structure of tris( $\alpha$ -di-imino) complexes of ruthenium(0), 43-50
- Light-induced electron-transfer reactions. Part 3. Kinetics of the oxidation reaction of oxalate ion by peroxodisulphate ion, induced by irradiation with visible light of an aqueous solution containing tris(2,2'-bipyridine)ruthenium(II), 355-60
- Mono- and bi-nuclear hydroxamates of bis(2-phenylazopyridine)ruthenium(II), 361-8
- Nitrosoarene complexes of ruthenium and platinum and their reactions with NO and NO<sup>+</sup>, 401-4
- Complexes of the platinum metals. Part 25. Reactions of ruthenium and osmium nitrosyls  $[\text{MH}(\text{NO})(\text{PPh}_3)_3]$  and  $[\text{M}(\text{NO})_2(\text{PPh}_3)_2]$  with perfluorocarboxylic acids: X-ray crystal structure determination of nitrosyl(trifluoroacetato)-(trifluoroacetohydroximato-*OO'*)bis(triphenylphosphine)osmium(II)-dichloromethane (1/1), 621-8
- Synthesis and X-ray structural studies on the cluster compounds  $[\text{RuRh}_3(\mu_3\text{-CO})_2(\text{CO})_3(\eta\text{-C}_5\text{Me}_5)_3]$  and  $[\text{RuRh}_2(\mu\text{-CO})(\mu_3\text{-CO})(\text{CO})_2(\eta^4\text{-C}_8\text{H}_{10})(\eta\text{-C}_5\text{Me}_5)_2]$ , 645-50
- Organoruthenium(II) complexes formed by insertion reactions of some vinyl compounds and conjugated dienes into a hydrido-ruthenium bond, 873-8
- Mechanism of addition of aryltrimethyl-silanes and -stannanes to tricarbonyl(cyclohexadienyl)ruthenium(II) cation, 1049-52
- Absorption and emission in tris(2,2'-bipyridyl)ruthenium(II); effects of excited-state asymmetry, 1081-6
- Cluster chemistry. Part 31. An  $[\text{Ru}_3(\text{CO})_{12}]$  derivative with an  $[\text{Fe}_3(\text{CO})_{12}]$ -like structure: preparation and X-ray structure of  $[\text{Ru}_3(\mu\text{-CO})_2(\text{CO})_6\{\text{PPh}(\text{OMe})_2\}_4]$ , 1223-8
- Cluster chemistry. Part 32. Synthesis and X-ray crystal structure of  $[\text{Ru}_3(\mu_3\text{-}\eta^2\text{-C}_2\text{PPh}_2\text{-}P)(\mu\text{-PPh}_2)(\text{CO})_3]$ , a complex containing an alkynyl ligand in extended interaction with an open  $\text{Ru}_3$  cluster, 1229-34
- From diarylruthenium complexes to *ortho*-metallated ketones: a mechanistic and crystal structure study, 1235-42
- Photochemistry of dicarbonyl( $\eta^5$ -cyclopentadienyl)-methyl- and -ethyl-iron and -ruthenium complexes in solutions at -30 °C and in frozen gas matrices at 12 K, 1365-74
- Bimetallic cyano-bridged cations: preparation and hydride reduction of  $[(\eta^5\text{-C}_5\text{H}_5)_2\text{Ru}(\mu\text{-CN})\text{ML}'_2(\eta^5\text{-C}_5\text{H}_5)]\text{PF}_6$  [ $\text{L}_2, \text{L}'_2 = (\text{PPh}_3)_2, \text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2$ ; M = Ru or Fe]. Formation of  $[\text{Ru}(\eta^5\text{-C}_5\text{H}_5)(\text{PPh}_3)_3]$  and X-ray crystal structure of  $[(\eta^5\text{-C}_5\text{H}_5)_2(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)\text{Ru}(\mu\text{-CN})\text{Ru}(\text{PPh}_3)_2(\eta^5\text{-C}_5\text{H}_5)]\text{PF}_6$ , 1479-86
- Kinetics and mechanism of the reductions of tris(oxalato)cobaltate(III) ion by ruthenium(II) species in aqueous solution, 1665-8
- Preparation and vibrational spectra of  $[\text{OsX}_6]^{3-}$  (X = Cl, Br, or I) and of other platinum-group hexahalogeno-complexes, 1673-6
- A new reaction of nitrosyl complexes; one-electron reduction of *trans*- $[\text{MX}(\text{NO})\text{L}_4]^{2+}$  [M = Ru or Fe, X = Cl or Br, L = pyridine or *o*-phenylenebis(dimethylarsine)] with hydroxylamine, 1733-4
- Magnetic circular dichroism spectra of tris-chelate complexes of 2,2'-bipyridyl and 1,10-phenanthroline with iron(II), ruthenium(II), and osmium(II) at 4.2 K, 1781-8
- Reaction between  $[\text{Ru}_3(\text{CO})_{12}]$  and the tridentate phosphine ligand  $\text{HC}(\text{PPh}_2)_3$ ; X-ray crystal structures of complexes  $[\text{Ru}_3(\text{CO})_9\{\text{Ph}_2\text{PCH}(\text{Ph})\text{C}_6\text{H}_4\text{PPh}\}_3]$ ,  $[\text{Ru}_2\text{H}(\text{CO})_4(\text{Ph}_2\text{PCHPPH}_2)\{\text{PhPC}_6\text{H}_4\text{C}(\text{O})\}]$ , and  $[\text{Ru}_3(\text{CO})_4\text{Cl}(\text{PPh}_2)(\text{dppm})]$ , 1835-42
- Organic chemistry of dinuclear metal centres. Part 8. Organo-iron-ruthenium chemistry. X-ray structure of *trans*- $[\text{FeRu}(\text{CO})_2(\mu\text{-CO})_2(\eta\text{-C}_5\text{H}_5)_2]$ , 1935-44
- Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 38. Ruthenium-tungsten compounds: crystal structures of  $[\text{RuW}(\mu\text{-Cl})(\mu\text{-CMe})(\text{Cl})(\text{CO})_3(\text{PPh}_3)_2(\eta\text{-C}_5\text{H}_5)]$  and  $[\text{RuW}_2(\mu_3\text{-C}_2\text{Me}_2)(\text{CO})_7(\eta\text{-C}_5\text{H}_5)_2]$ , 2017-24
- Trimethylphosphine as a reactive solvent: synthesis, crystal structures, and reactions of  $[\text{Ta}(\text{PMe}_3)_3(\eta^2\text{-CH}_2\text{PMe}_2)(\eta^2\text{-CHPMe}_2)]$  and  $[\text{W}(\text{PMe}_3)_4(\eta^2\text{-CH}_2\text{PMe}_2)\text{H}]$  and related studies, 2025-36
- Complexes of the platinum metals. Part 29. Pyridine-2-thiolate derivatives of ruthenium and osmium: X-ray crystal structures of  $[\text{Ru}(\text{C}_5\text{H}_4\text{NS})_2(\text{CO})_2(\text{PPh}_3)]$  and  $[\text{Ru}(\text{C}_5\text{H}_4\text{NS})_2(\text{CO})(\text{PPh}_3)]$ , 2101-12
- Reactions of co-ordinated ligands. Part 34. Synthesis, structure, and reactivity of cationic dieneruthenium complexes; crystal structures of  $[\text{Ru}(\eta^4\text{-C}_6\text{H}_8)(\text{CO})(\eta\text{-C}_5\text{H}_5)]\text{BF}_4$  and  $[\text{Ru}(\eta^3\text{-C}_6\text{H}_9)(\text{CO})(\eta\text{-C}_5\text{H}_5)]$ , 2145-54
- Preparation and characterisation of 2,2'-bipyridine-4,4'-disulphonic and -5-sulphonic acids and their ruthenium(II) complexes. Excited-state properties and excited-state electron-transfer reactions of ruthenium(II) complexes containing 2,2'-bipyridine-4,4'-disulphonic acid or 2,2'-bipyridine-4,4'-dicarboxylic acid, 2247-62
- The synthesis, magnetic, electrochemical, and spectroscopic properties of diruthenium(II,II) tetra- $\mu$ -carboxylates and their adducts. X-ray structures of  $\text{Ru}_2(\text{O}_2\text{CR})_4\text{L}_2$  (R = Me, L = H<sub>2</sub>O or tetrahydrofuran; R = Et, L = Me<sub>2</sub>CO), 2321-6

**RUTHENIUM (contd)**

Metallaborane chemistry. Part 14.<sup>1</sup> Icosahedral  $\eta^6$ -arene carbametallaboranes of iron and ruthenium; molecular structures of *closo*-[1-( $\eta^6$ -C<sub>6</sub>H<sub>5</sub>Me)-2,4-Me<sub>2</sub>-1,2,4-FeC<sub>2</sub>B<sub>9</sub>H<sub>9</sub>] and *closo*-[3-( $\eta^6$ -C<sub>6</sub>H<sub>6</sub>)-3,1,2-RuC<sub>2</sub>B<sub>9</sub>H<sub>11</sub>], 2343-8

Polyhedral ruthenaborane chemistry: characterization of several new ruthenaboranes by nuclear magnetic resonance spectroscopy, and the crystal and molecular structure of [5,6,6-(PPh<sub>3</sub>)<sub>3</sub>-6-H-nido-6-RuB<sub>9</sub>H<sub>12</sub>], 2397-406

Two unusual *closo*-type ruthenaboranes: preparation, molecular structure, and nuclear magnetic resonance properties of [1,1,1-(PPh<sub>3</sub>)HCl-1-RuB<sub>9</sub>H<sub>7</sub>-3,5-(PPh<sub>3</sub>)<sub>2</sub>] and [1,1-(PPh<sub>3</sub>)<sub>2</sub>-1-RuB<sub>10</sub>H<sub>8</sub>-2,5-(OEt)<sub>2</sub>], 2407-16

Electrophilic nitrosyls: preparation, structure, and reactivity of *cis*-chloronitrosylbis(pyridine-2-carboxylato)ruthenium and related complexes, 2427-32

Thiazyl chloride complexes of ruthenium(II), 2449-52

Linkage isomerism in penta-ammineruthenium(II,III) complexes of benzotriazole, 2469-72

Cationic complexes of ruthenium(II) and -(III) with uni- and polydentate ligands, 2603-8

Ligand reactivity in polypyridine complexes; the deuteration of the bis(2,2':6',2''-terpyridine)ruthenium(II) cation, 2687-90

**SALICYLALDOXIME**

Some water-soluble Schiff-base complexes of nickel(II): the role of water, 1451-4

**SALICYLIDINEIMINE**

Some water-soluble Schiff-base complexes of nickel(II): the role of water, 1451-4

**SCHIFF BASE**

Enantioselectivity of nickel(II) and copper(II) complexes of Schiff bases derived from amino acids and (*S*)-*o*-[(*N*-benzylpropyl)amino]acetophenone or (*S*)-*o*-[(*N*-benzylpropyl)amino]benzaldehyde. Crystal and molecular structures of [Ni{(S)-bap-(S)-Val}] and [Cu{(S)-bap-(S)-Val}], 17-26

Binuclear metal complexes. Part 55. Dimanganese(II) and mixed-valence manganese(II,III) complexes of 'strati-bis' Schiff bases with two salen-like donating sites, 59-64

Synthesis and characterization of copper(II) complexes with unsymmetrical quadridentate Schiff bases derived from  $\beta$ -diketone, diamine, and *o*-hydroxybenzaldehyde ligands, 101-6

Synthesis and characterization of a new family of binuclear copper(II) complexes with a flexible bridge and the  $\pi$ - $\pi$  type charge-transfer interaction with 1,3,5-trinitrobenzene, 107-10

Reaction of some aliphatic diamines with four-co-ordinated unsymmetrical ketoenamine copper(II) and nickel(II) complexes, 803-6

Mercurated and tellurated Schiff bases and phenylhydrazones, 821-6

Water photolysis. Part 1. The photolysis of co-ordinated water in [MnL(H<sub>2</sub>O)]<sub>2</sub>[ClO<sub>4</sub>]<sub>2</sub> (L = dianion of tetradentate O<sub>2</sub>N<sub>2</sub>-donor Schiff bases). A model for the manganese site in photosystem II of green plant photosynthesis, 1391-8

Some water-soluble Schiff-base complexes of nickel(II): the role of water, 1451-4

Compartmental ligands. Part 11. Copper(II) complexes of 'half-unit' Schiff bases: crystal and molecular structures of one monomeric and of one dimeric complex, 1471-8

The structure of a dinuclear copper(I) complex of a Schiff-base ligand containing a copper-copper bond, 1771-4

Metal complexes of vitamin B<sub>6</sub> related compounds. Crystal and molecular structures of aqua(5'-phosphopyridoxylidene-glycinato)copper(II) trihydrate and bis(pyridoxylidene-glycinato)nickel(II) hexahydrate, 2051-8

X-Ray crystal structures and magnetic properties of azide-bridged binuclear copper(II) complexes containing the Schiff-base ligand derived from 2-pyridinecarbaldehyde and histamine. Structure-magnetism relationship, 2095-100

Studies on spin-equilibrium iron(III) complexes. Part 1. Syntheses and magnetic properties of a new family of spin cross-over iron(III) complexes with a unidentate ligand over a wide range of the spectrochemical series and a quinquedentate ligand derived from salicylaldehyde and di(3-aminopropyl)amine. X-Ray crystal structure of [4-azaheptamethylene-1,7-bis(salicylideneiminato)](4-methylpyridine)iron(III) tetraphenylborate, 2575-84

**SELANE**

Crystal structures and rotameric forms of some diarylsulphonyl-mono-, -di-, and -tri-selanes and their sulphur analogues, 231-8

**SELENIDE**

The chemistry of heteroarylphosphorus compounds. Part 16. Unusual substituent effects on selenium-77 nuclear magnetic resonance chemical shifts of heteroaryl- and aryl-phosphine selenides. X-Ray crystal structure of tri(2-furyl)phosphine selenide, 2505-8

**SELENIUM**

Crystal structures and rotameric forms of some diarylsulphonyl-mono-, -di-, and -tri-selanes and their sulphur analogues, 231-8

Structural and nuclear magnetic resonance studies of short selenium-nitrogen bonds, 565-72

The molecular structure of gaseous bis(trifluoromethyl)selenium difluoride as determined by electron diffraction, 941-6

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 34. Reactions of sulphur and selenium with the di-iron tungsten complexes [Fe<sub>2</sub>W( $\mu_3$ -CR)( $\mu$ -CO)(CO)<sub>8</sub>( $\eta$ -C<sub>5</sub>H<sub>5</sub>)] (R = C<sub>6</sub>H<sub>4</sub>Me-4 or Me); crystal structures of [Fe<sub>2</sub>W( $\mu$ -CC<sub>6</sub>H<sub>4</sub>Me-4)( $\mu_3$ -S)(CO)<sub>7</sub>( $\eta$ -C<sub>5</sub>H<sub>5</sub>)] and [Fe<sub>2</sub>W( $\mu_3$ -SCMe)(CO)<sub>8</sub>( $\eta$ -C<sub>5</sub>H<sub>5</sub>)], 1323-30

Fundamental vibrations of six- and seven-membered selenium sulphide ring molecules, 1869-76

**SELENIUM-77**

Structural and nuclear magnetic resonance studies of short selenium-nitrogen bonds, 565-72

Synthesis, properties, and multinuclear magnetic resonance (<sup>1</sup>H, <sup>77</sup>Se, and <sup>195</sup>Pt) studies on diselenoether complexes of palladium, platinum, and rhodium, 1265-70

Synthesis, properties, and <sup>77</sup>Se nuclear magnetic resonance studies of platinum metal complexes of two isomeric tris(selenoethers), MeC(CH<sub>2</sub>SeMe)<sub>3</sub> and Se(CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>SeMe)<sub>2</sub>, 2185-90

The chemistry of heteroarylphosphorus compounds. Part 16. Unusual substituent effects on selenium-77 nuclear magnetic resonance chemical shifts of heteroaryl- and aryl-phosphine selenides. X-Ray crystal structure of tri(2-furyl)phosphine selenide, 2505-8

**SELENOETHER**

Synthesis and properties of dioxo-osmium(VI) compounds of thio- and seleno-ethers, 205-8

Static and dynamic nuclear magnetic resonance studies of complexes of trimethylplatinum(IV) halides with olefinic thio- and seleno-ethers. X-Ray crystal structures of [PtXMe<sub>3</sub>(MeSeCH=CHSeMe)] (X = Cl or I), 345-54

Synthesis, properties, and <sup>77</sup>Se nuclear magnetic resonance studies of platinum metal complexes of two isomeric tris(selenoethers), MeC(CH<sub>2</sub>SeMe)<sub>3</sub> and Se(CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>SeMe)<sub>2</sub>, 2185-90

**SELF-ASSOCIATION**

Self-association of organocobalamins in aqueous solution, 1381-6

**SHIFT REAGENT**

Mixed-ligand complexes of trivalent lanthanides. Part 3. Complexes of heptafluorodimethyloctane-3,5-dione and pyrazine: syntheses and spectral studies, 2547-50

**SILANE**

Mechanism of addition of aryltrimethyl-silanes and -stannanes to tricarbonyl(cyclohexadienyl)ruthenium(II) cation, 1049-52

**SILICON**

Co-ordinative interactions in chelated complexes of silicon. Part 5. Chirality of five-co-ordinate silicon compounds: crystal and molecular structures of 1-(chlorodimethylsilyl)- and 1-(dichloromethylsilyl)-1,2,3,4-tetrahydro-1,10-phenanthroline, 1-4

Co-ordinative interactions in chelated complexes of silicon. Part 7. Dynamic nuclear magnetic resonance studies of fluorine exchange at five-co-ordinated silicon, 5-8

Sila-pharmaca. Part 32. Crystal and molecular structures of the (*R*)-enantiomer and the racemate of the antimuscarinic agent (cyclohexyl)phenyl[2-(pyrrolidin-1-yl)ethyl]silanol (sila-procyclidine), 1743-6

Syntheses of organofunctional siloxanes containing metal-ligating side-chains, 2191-4

**SILOXANE**

Syntheses of organofunctional siloxanes containing metal-ligating side-chains, 2191-4

**SILVER**

Lewis-base adducts of Group 1B metal(I) compounds. Part 11. Synthesis and crystal structure of adducts of silver(I) bromide with monomethyl-substituted pyridine bases, 111-6

Lewis-base adducts of Group 1B metal(I) compounds. Part 12. Structural studies of some bis(methyl-substituted pyridine)-copper(I) and -silver(I) nitrates and perchlorates, 117-24

Lewis-base adducts of Group 1B metal(I) compounds. Part 13.

**SILVER** (contd)

Crystal structure determinations of tetrakis(triphenyl-phosphine)-copper(I) and -silver(I) perchlorates, bis(pyridine)bis(triphenylphosphine)copper(I) perchlorate, (2,2'-bipyridyl)bis(triphenylphosphine)copper(I) perchlorate, and tetrahydroboratobis(triphenylphosphine)copper(I)-pyridine (1/0.5), 125-34

Chemical and structural aspects of silver-triphenylarsine complexes and silver-tin complex salts, 321-32

Bimetallic systems. Part 8. Heterobimetallic di-isonitrile or isonitrile-carbonyl complexes of rhodium or iridium bridged to silver or gold by  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$ , 511-6

The kinetics and stoichiometry of silver(III) reduction by the octacyano-complexes of molybdenum(IV) and tungsten(IV), 1789-94

Synthesis and cryptate complexes of azathia macropolycyclic ligands based on 12-membered  $\text{N}_2\text{S}_2$  and 15-membered  $\text{N}_2\text{S}_3$  macrocyclic subunits, 2311-8

**SOLVATION**

Structure and solvation of mercury(II) iodide, bromide, and chloride in pyridine solution; refinement of the crystal structure of di-iodobis(pyridine)mercury(II),  $[\text{HgI}_2(\text{py})_2]$ , 1597-604

**SOLVENT EFFECT**

The peroxodisulphate-iodide reaction. Reactivity and ionic association and solvation in isodielectric water-solvent mixtures, 31-4

Solvent effects on the redox potential of the uranium(VI)-uranium(V) couple, 601-4

Solvent dependence of the stereochemistry of base-catalysed solvolysis of *trans*- $[\text{Co}(\text{NH}_3)_4(^{15}\text{NH}_3)\text{X}]^{3+/2+}$  ions in dipolar aprotic solvents, 659-62

Electrostatic solvent effect on the formation of the mixed-chelate complex (acetylacetonato)(diethyldithiocarbamato)-copper(II), 987-90

Electron spin resonance studies of iron(III) complexes of ethylenediaminetetra-acetate and *N*-(2-hydroxyethyl)ethylenediamine-*N,N',N'*-triacetate in co-ordinating solvents, 1077-80

Beryllocene: A microwave dielectric loss study, 1761-6

The peroxodisulphate-hexacyanoferrate(II) reaction. Reactivity and ionic association in isodielectric water-co-solvent mixtures, 1975-6

The mechanisms of the reactions between hydrido-complexes and diazonium salts. Part 1. The reactions of *trans*- $[\text{PtH}(\text{Cl})(\text{PEt}_3)_2]$ , 2059-66

The mechanisms of the reactions between hydrido-complexes and diazonium salts. Part 2. The reactions of *cis,mer*- $[\text{RhHCl}_2(\text{PEtPh}_2)_3]$ , 2067-78

Copper(II) complexes of *N,N'*-bis(2-carbamoyl ethyl)ethylenediamine in methanol-water, 2217-20

Influence of decreasing solvent polarity (dioxane-water mixtures) on the stability and structure of binary and ternary complexes of adenosine 5'-triphosphate and uridine 5'-triphosphate, 2291-304

The effect of a dansyl group on the co-ordinative ability of *N*-protected amino acids. Part 1. Behaviour of the copper(II) ion-*N*-dansylglycinate system in aqueous and methanolic solution, 2363-8

Kinetics and mechanisms of complex formation of gallium(III) and indium(III). The reactions with 4-(2-pyridylazo)resorcinol in water and other mixed solvents, 2615-22

**SOLVENT EXTRACTION**

Solvent extraction of gold and platinum-group metals using 2-nonylpyridine 1-oxide, and the crystal and molecular structure of bis(2-nonylpyridine 1-oxide)hydrogen(1+) tetrachloroaurate(III), 771-6

**SOLVOLYSIS**

Solvent dependence of the stereochemistry of base-catalysed solvolysis of *trans*- $[\text{Co}(\text{NH}_3)_4(^{15}\text{NH}_3)\text{X}]^{3+/2+}$  ions in dipolar aprotic solvents, 659-62

**SPINEL**

X-Ray diffraction determination of the cation distribution and oxygen positional parameter in polycrystalline spinels, 2155-60

**STABILITY**

Influence of secondary ligands on the stability of metal-xanthosine complexes in solution, 239-42

The L-proline residue as a 'break-point' in metal-peptide systems, 535-40

An equation for predicting the formation constants of hydroxo-metal complexes, 723-30

The stability of nickel(II) complexes of tetra-aza macrocycles, 1877-80

The hydrolysis of metal ions. Part 8. Aluminium(III), 1967-70

On the possibility of determining the thermodynamic parameters for the formation of weak complexes using a simple model for the dependence on ionic strength of activity coefficients:  $\text{Na}^+$ ,  $\text{K}^+$ , and  $\text{Ca}^{2+}$  complexes of low molecular weight ligands in aqueous solution, 2353-62

The effect of a dansyl group on the co-ordinative ability of *N*-protected amino acids. Part 1. Behaviour of the copper(II) ion-*N*-dansylglycinate system in aqueous and methanolic solution, 2363-8

Carbon-13 nuclear magnetic resonance study of the complexes formed between zinc(II) and triethylenetetramine, 2381-6

**STABILITY CONSTANT**

SUPERQUAD: an improved general program for computation of formation constants from potentiometric data, 1195-200

Reactions of metal ions with triketones in solution. Part 1.

Formation constants for the systems of heptane-2,4,6-trione, 1-phenylhexane-1,3,5-trione, 1,5-diphenylpentane-1,3,5-trione, and 2,2'-dihydroxybenzophenone with proton, nickel(II), and cobalt(II), 1543-6

Potentiometric study of the complex-formation equilibria of manganese(II), cobalt(II), nickel(II), copper(II), and zinc(II) with ethylenediamine-*N*-acetic acid, 1605-8

The chemistry of vitamin B<sub>12</sub>. Part 25. Mechanism of the  $\beta$ -elimination of olefins from alkylcorrinoids; evidence for an initial homolytic fission of the Co-C bond, 1613-8

The chemistry of vitamin B<sub>12</sub>. Part 26. Co-ordination of the malonitrile anion by Co<sup>III</sup> corrinoids: first experimental determination of equilibrium constants for the co-ordination of a tetrahedral carbanion by a transition-metal ion, 1619-22

**STACKING**

Influence of decreasing solvent polarity (dioxane-water mixtures) on the stability and structure of binary and ternary complexes of adenosine 5'-triphosphate and uridine 5'-triphosphate, 2291-304

**STANNANE**

Mechanism of addition of aryltrimethyl-silanes and -stannanes to tricarbonyl(cyclohexadienyl)ruthenium(II) cation, 1049-52

**STEEL**

Electrochemical studies in  $\text{HNO}_3$ - $\text{N}_2\text{O}_4$  mixtures: corrosion of stainless steel in  $\text{HNO}_3$ - $\text{N}_2\text{O}_4$  mixtures and the effect of inhibitors, 2551-4

**STEREOCHEMISTRY**

Solvent dependence of the stereochemistry of base-catalysed solvolysis of *trans*- $[\text{Co}(\text{NH}_3)_4(^{15}\text{NH}_3)\text{X}]^{3+/2+}$  ions in dipolar aprotic solvents, 659-62

**STEREOSELECTIVITY**

Optical resolution of DL-2,2'-bipiperidine through its cobalt(III) complex, 895-8

**STIBINE**

Dirhodium(II,II) tetra-acetate complexes with axially co-ordinated triphenylstibine, triphenylarsine, and dibenzyl sulphide ligands. The syntheses, properties, and X-ray crystal structures of  $[\text{Rh}_2(\text{O}_2\text{CMe})_4(\text{SbPh}_3)_2]$ ,  $[\text{Rh}_2(\text{O}_2\text{CMe})_4(\text{AsPh}_3)_2]$ , and  $[\text{Rh}_2(\text{O}_2\text{CMe})_4\{\text{S}(\text{CH}_2\text{Ph})_2\}_2]$ , 1775-80

**STRONTIUM**

Magnetic exchange interactions in perovskite solid solutions. Part 5. The unusual defect structure of  $\text{SrFeO}_{3-x}$ , 1455-70

**SUBSTITUTION**

The kinetics of the displacement, by chloride, of heterocyclic nitrogen bases (am) from *trans*- $[\text{PtL}(\text{am})\text{Cl}_2]$  (L =  $\text{C}_2\text{H}_4$ , CO, or  $\text{PMe}_3$ ). The effect of steric hindrance in the leaving group on the *trans* effect of L, 27-30

Ligand substitution on (*N,N*-dimethylformamide)[2,2',2''-tri(*N,N*-dimethylamino)triethylamine]cobalt(II), 413-6

Displacement of pyridine-2-methanol from dichloro(pyridine-2-methanolato)gold(III) in acidic solution. Ring opening at oxygen, 731-6

Electrochemically induced ligand substitutions on  $[\text{OsCl}_3(\text{PMe}_2\text{Ph})_3]$ : rational pathways to osmium(II) complexes, 947-52

**SULPHANE**

Crystal structures and rotameric forms of some diarylsulphonyl-mono-, -di-, and -tri-selanes and their sulphur analogues, 231-8

**SULPHATE**

Some water-soluble Schiff-base complexes of nickel(II): the role of water, 1451-4

**SULPHIDE**

Niobium(IV) sulphidohalides: preparation of Nb<sub>2</sub>X<sub>4</sub>S<sub>3</sub> and Nb<sub>2</sub>X<sub>4</sub>S<sub>n</sub>L [X = Br or Cl; n = 4, L = NCMe, SMe<sub>2</sub>, or tetrahydrothiophene (tht); n = 2, L = PhSCH<sub>2</sub>CH<sub>2</sub>SPh]. Crystal and molecular structure of Nb<sub>2</sub>Cl<sub>4</sub>S<sub>2</sub>·4tht, 417–22

Chemistry of platinum sulphido-complexes. Part 5. Synthesis and crystal and molecular structure of 3-(η-cyclo-octa-1,5-diene)bis(μ<sub>3</sub>-sulphido)-1,1,2,2-

tetrakis(triphenylphosphine)diplatinum(II)rhodium(I) hexafluorophosphate-dichloromethane (1/1), [Pt<sub>2</sub>Rh(μ<sub>3</sub>-S)<sub>2</sub>(PPh<sub>3</sub>)<sub>4</sub>(η-C<sub>8</sub>H<sub>12</sub>)]PF<sub>6</sub>·CH<sub>2</sub>Cl<sub>2</sub>, 851–6

Synthesis, structures, and reactivities of some pentamethylcyclopentadienyl-sulphur compounds, 1303–8

Reaction of bis(morpholiniothiocarbonyl) disulphide with iodine.

Existence of a 1:1 charge-transfer precursory adduct in an oxidation reaction. Isolation and crystal structure of bis[3,5-di(N-morpholinio)-1,2,4-trithiolane] hexadecafluoride, 1349–54

Dirhodium(II,II) tetra-acetate complexes with axially co-ordinated triphenylstibine, triphenylarsine, and dibenzyl sulphide ligands.

The syntheses, properties, and X-ray crystal structures of [Rh<sub>2</sub>(O<sub>2</sub>CMe)<sub>4</sub>(SbPh<sub>3</sub>)<sub>2</sub>], [Rh<sub>2</sub>(O<sub>2</sub>CMe)<sub>4</sub>(AsPh<sub>3</sub>)<sub>2</sub>], and [Rh<sub>2</sub>(O<sub>2</sub>CMe)<sub>4</sub>{S(CH<sub>2</sub>Ph)<sub>2</sub>}<sub>2</sub>], 1775–80

High-co-ordination-number compounds of niobium and tantalum:

Reactions of niobium and tantalum halides and sulphido-halides with sodium diethyldithiocarbamate. The crystal structures of [Nb(S<sub>2</sub>CNET<sub>2</sub>)<sub>4</sub>]Br, Nb(S<sub>2</sub>CNET<sub>2</sub>)<sub>3</sub>S, and Ta(S<sub>2</sub>CNET<sub>2</sub>)<sub>3</sub>(S<sub>2</sub>), 1821–8

Crystal structure and spectroscopic and redox properties of the iron-sulphur cluster compound [NEt<sub>4</sub>]<sub>2</sub>[Fe<sub>4</sub>S<sub>4</sub>(SC<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>)<sub>4</sub>], 2161–6

Synthesis and X-ray crystal structure of the asymmetric trinuclear complex [Ni<sub>3</sub>(μ<sub>3</sub>-S)<sub>2</sub>(H<sub>2</sub>O)(PPh<sub>3</sub>)<sub>3</sub>][PF<sub>6</sub>]<sub>2</sub>, 2209–12

Electrical and magnetic properties of K<sub>3</sub>Cu<sub>8</sub>S<sub>6</sub>, 2319–20

Preparation, characterization, and physical properties of the series MPd<sub>3</sub>S<sub>4</sub> (M = rare earth), 2369–74

Fragmentation of co-ordinated carbon disulphide and dithiocarbene ligands by nucleophilic attack at carbon: the crystal structure of [(Ph<sub>3</sub>P)IPt(μ-SMe)(μ-CSMe)PtI(PPh<sub>3</sub>)]·Me<sub>2</sub>CO, 2595–602

**SULPHONIC ACID**

Preparation and characterisation of 2,2'-bipyridine-4,4'-disulphonic and -5-sulphonic acids and their ruthenium(II) complexes. Excited-state properties and excited-state electron-transfer reactions of ruthenium(II) complexes containing 2,2'-bipyridine-4,4'-disulphonic acid or 2,2'-bipyridine-4,4'-dicarboxylic acid, 2247–62

**SULPHONIUM**

Crystal structure of tris(methylmercurio)sulphonium perchlorate, 2457–8

**SULPHOXIDE**

Reactions of sulphoxide-thioether bidentate ligands with platinum(II). Determination of the mode of binding by cyclic voltammetry, 209–12

The preparation of trichloro(phenyl 2-pyridylmethyl sulphoxide)gold(III) and the kinetics and equilibria of its formation and subsequent reactions, 2091–4

**SULPHUR**

Reactions in mixed non-aqueous systems containing sulphur dioxide. Part 6. The reaction of metal oxides with dimethyl sulphoxide-sulphur dioxide, 99–100

Crystal structures and rotameric forms of some diarylsulphonyl-mono-, -di-, and -tri-selenes and their sulphur analogues, 231–8

Phosphorus-phosphorus bond cleavage in the cage molecule P<sub>4</sub>S<sub>3</sub>: synthesis and crystal structure of the trinuclear platinum complex [Pt(μ-P<sub>4</sub>S<sub>3</sub>)(PPh<sub>3</sub>)<sub>3</sub>]<sub>2</sub>·C<sub>6</sub>H<sub>6</sub>, 291–6

Zinc-sulphur bond enthalpy: its determination in bis(diethyldithiocarbamate)zinc(II), 369–72

Synthesis, structures, and reactivities of some pentamethylcyclopentadienyl-sulphur compounds, 1303–8

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 34. Reactions of sulphur and selenium with the di-iron tungsten complexes [Fe<sub>2</sub>W(μ<sub>3</sub>-CR)(μ-CO)(CO)<sub>8</sub>(η-C<sub>5</sub>H<sub>5</sub>)] (R = C<sub>6</sub>H<sub>4</sub>Me-4 or Me); crystal structures of [Fe<sub>2</sub>W(μ-CC<sub>6</sub>H<sub>4</sub>Me-4)(μ<sub>3</sub>-S)(CO)<sub>7</sub>(η-C<sub>5</sub>H<sub>5</sub>)] and [Fe<sub>2</sub>W(μ<sub>3</sub>-SCMe)(CO)<sub>8</sub>(η-C<sub>5</sub>H<sub>5</sub>)], 1323–30

Intermediates in the photochemical reaction of tetraphosphorus trisulphide with organic disulphides; phosphorus-31 nuclear magnetic resonance parameters for 2,6-bis(alkylthio)- and 2,6-diiodo-3,5,7-trithia-1,2,4,6-tetraphosphabicyclo[2.2.1]heptanes and for 3,6-bis(alkylthio)-2,5,7-trithia-1,3,4,6-

tetraphosphabicyclo[2.2.1]heptanes, 1707–12

Fundamental vibrations of six- and seven-membered selenium sulphide ring molecules, 1869–76

**SULPHUR DIOXIDE**

Reactions in mixed non-aqueous systems containing sulphur dioxide. Part 6. The reaction of metal oxides with dimethyl sulphoxide-sulphur dioxide, 99–100

Interconversion of 42- and 44-electron platinum *triangulo*-clusters using chelating tertiary phosphine ligands and the structural characterisation of [1,3-bis(diphenylphosphino)propane]-tris(μ-sulphur dioxide)bis(tricyclohexylphosphine)triplatinum-benzene (1/2), [Pt<sub>3</sub>(μ-SO<sub>2</sub>)<sub>3</sub>{P(C<sub>6</sub>H<sub>11</sub>)<sub>3</sub>}<sub>2</sub>(dppp)]·2C<sub>6</sub>H<sub>6</sub>, 845–50

The co-ordination of small molecules by manganese(II) phosphine complexes. Part 3. The dependence on the nature of the halogen in [MnX<sub>2</sub>(PR<sub>3</sub>)] (X = Cl, Br, or I; R<sub>3</sub> = PhMe<sub>2</sub>, PhEt<sub>2</sub>, PhPr<sup>n</sup>, PhBu<sup>n</sup>, PhBu<sup>1</sup>, Pr<sup>n</sup>, Bu<sup>n</sup>, or Ph<sub>3</sub>) on adduct formation with sulphur dioxide in the solid state and in tetrahydrofuran solution, 2661–4

**SUPEROXIDE**

Dismutation of superoxide ion in an aprotic solvent by 5,10,15,20-tetra-*p*-tolylporphyrinatocobalt(II), 1513–6

**SUPEROXO**

A new electron spin resonance spectrum for an exchange- and dipole-dipole coupled superoxocobalamin ··· free-radical pair occurring in adenosylcobalamin-containing systems, 891–4

**TANTALUM**

The synthesis of NR<sub>4</sub>[(Ta<sub>6</sub>Cl<sub>12</sub>)(H<sub>2</sub>O)<sub>6</sub>]X<sub>4</sub> (R = Me or Et, X = Cl or Br) by the spontaneous reduction of [Ta<sub>6</sub>Cl<sub>12</sub>]<sup>4+</sup> to [Ta<sub>6</sub>Cl<sub>12</sub>]<sup>3+</sup> in acidic media: X-ray structure analysis of NMe<sub>4</sub>[(Ta<sub>6</sub>Cl<sub>12</sub>)(H<sub>2</sub>O)<sub>6</sub>]Br<sub>4</sub>, 455–8

The synthesis of NR<sub>4</sub>[(Ta<sub>6</sub>Cl<sub>12</sub>)(H<sub>2</sub>O)<sub>6</sub>]X<sub>4</sub> (R = Me or Et, X = Cl or Br) by the spontaneous reduction of [Ta<sub>6</sub>Cl<sub>12</sub>]<sup>4+</sup> to [Ta<sub>6</sub>Cl<sub>12</sub>]<sup>3+</sup> in acidic media: X-ray structure analysis of NMe<sub>4</sub>[(Ta<sub>6</sub>Cl<sub>12</sub>)(H<sub>2</sub>O)<sub>6</sub>]Br<sub>4</sub> (1985, 455), 1531–2

Axially asymmetric metal alkyls. Part 3. Chemical, electrochemical, and structural studies of group 5A d<sup>0-1.2</sup> metallepines [M{(2-CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>}<sup>z</sup> (M = Nb or Ta; z = 1-, 0, or 1+); synthesis of [Nb{2-CH<sub>2</sub>(C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>Me-2'}X(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>] (X = Cl or CO) and [(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>ClV<sub>2</sub>](2-CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>], and electrochemistry of [M(CH<sub>2</sub>Ph)<sub>2</sub>-<sub>n</sub>Cl<sub>n</sub>(η-C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>] (n = 0, M = Nb, or Ta; n = 1, M = V), 1747–60

High-co-ordination-number compounds of niobium and tantalum: Reactions of niobium and tantalum halides and sulphido-halides with sodium diethyldithiocarbamate. The crystal structures of [Nb(S<sub>2</sub>CNET<sub>2</sub>)<sub>4</sub>]Br, Nb(S<sub>2</sub>CNET<sub>2</sub>)<sub>3</sub>S, and Ta(S<sub>2</sub>CNET<sub>2</sub>)<sub>3</sub>(S<sub>2</sub>), 1821–8

New carbonyl derivatives of niobium(I) and tantalum(I), 1989–96

**TELLURIUM**

Mercurated and tellurated Schiff bases and phenylhydrazones, 821–6

Synthesis and crystal structure of the layer compound Sb<sub>3</sub>TeO<sub>6</sub>Cl, 1633–6

Synthesis and characterisation of new mixed oxides of antimony and tellurium, 2225–30

**TEMPLATE**

The template synthesis and crystal and molecular structure of a seven-co-ordinate manganese(II) complex with 2,6-diacetylpyridine mono(2-aminobenzoyl)hydrazone, 215–8

The preparation and co-ordination chemistry of 2,2':6',2"-terpyridine macrocycles. Part 4. Structural characterisation of an intermediate in a transient template reaction, 333–6

Reactions of tris[(2*S*)-2-(aminomethyl)pyrrolidine]nickel(II) ion with alk-3-en-2-ones or 4-hydroxyalkan-2-ones: formation of an optically active tetra-aza macrocycle, 2139–44

Interactions of [Mo(CO)<sub>6</sub>] and [Mo(CO)<sub>3</sub>(C<sub>6</sub>H<sub>5</sub>CH<sub>3</sub>)] with O<sub>2</sub>N<sub>2</sub>- and O<sub>2</sub>N<sub>3</sub>-donor macrocycles and the X-ray crystal structure of tetracarbonyl(6,7,16,17-tetrahydro-15*H*-dibenzo[*e,n*][1,4,8,12]dioxadiazacyclododecane)molybdenum-toluene (2/1), 2561–4

**TERPYRIDINE**

The preparation and co-ordination chemistry of 2,2':6',2"-terpyridine macrocycles. Part 4. Structural characterisation of an intermediate in a transient template reaction, 333–6

Ligand reactivity in polypyridine complexes; the deuteration of the bis(2,2':6',2"-terpyridine)ruthenium(II) cation, 2687–90

**TETRA-AZACYCLODODECANE**

Proton exchange and base hydrolysis of *syn,anti-cis*-dichloro(1,4,7,10-tetra-azacyclododecane)cobalt(III) cations, 475–8

**TETRA-AZACYCLODODECANE** (contd)

The stability of nickel(II) complexes of tetra-aza macrocycles, 1877–80

**TETRA-AZACYCLOHEXADECANE**

Studies of pendant-arm macrocyclic ligands. Part 4. Two penta-aza macrocycles based on 1-(2'-dimethylaminoethyl)-1,5,9,13-tetra-azacyclohexadecane and its complexes with bivalent metal ions, 1361–4

**TETRA-AZACYCLOTETRADECANE**

Preparation of 11-(2'-dimethylaminoethyl)-1,4,7-trimethyl-1,4,7,11-tetra-azacyclotetradecane, and characterisation of its nickel(II), copper(II), and zinc(II) complexes, 219–22

**TETRA-AZACYCLOTRIDECANE**

The stability of nickel(II) complexes of tetra-aza macrocycles, 1877–80

**TETRACHLOROIODATE**

Thermochemistry of polyhalides. Part 5. Standard enthalpies of formation of tetramethylammonium and tetraethylammonium tetrachloroiodates, 997–1000

**TETRADECANAVANADOPHOSPHATE**

Oxygen exchange and protonation of polyanions: a multinuclear magnetic resonance study of tetradecavanadophosphate(9–) and decavanadate(6–), 1953–8

**TETRAHYDROALUMINATE**

Alkyl, hydrido, and tetrahydroaluminato complexes of manganese with 1,2-bis(dimethylphosphino)ethane (dmpe). *X*-Ray crystal structures of  $Mn_2(\mu-C_6H_{11})_2(C_6H_{11})_2(\mu-dmpe)$ ,  $(dmpe)_2Mn(\mu-H)_2AlH(\mu-H)_2AlH(\mu-H)_2Mn(dmpe)_2$ , and  $Li_2\{MnH(C_2H_5)_4[CH_2(Me)PCH_2CH_2PMe_2]_2\} \cdot 2Et_2O$ , 921–30

**TETRAHYDROBORATE**

Synthesis, characterization, and structure of the complex

$[FeH(H_2BH_3)(CH_3C(CH_2PPh_2)_3)]$ , 605–10

Hydrogen generation by hydrolysis of sodium tetrahydroborate: effects of acids and transition metals and their salts, 307–14

**TETRAHYDROFURAN**

Tetrachlorobis(tetrahydrofuran)molybdate(III), a new intermediate for the synthesis of molybdenum(III) complexes: preparation and crystal structure, 1069–72

Oxoalkyls of rhenium(V) and -(VI). *X*-Ray crystal structures of  $(Me_4ReO)_2Mg(thf)_4$ ,  $[(Me_4SiCH_2)_4ReO]_2Mg(thf)_2$ ,  $Re_2O_3Me_6$ , and  $Re_2O_3(CH_2SiMe_3)_6$ , 2167–76

**TETRAHYDROTHIOPHENE**

Sulphur ligand–metal complexes. Part 16. Copper complexes of thioethers and the single-crystal *X*-ray structure of the polymeric mixed-valence complex, penta- $\mu$ -chloro-tris- $\mu$ -tetrahydrothiophene-tetracopper(II), 151–8

Niobium(IV) sulphidothiohalides: preparation of  $Nb_2X_4S_3$  and  $Nb_2X_4S_nL[X = Br \text{ or } Cl; n = 4, L = NCM_2, SMe_2, \text{ or } \text{tetrahydrothiophene (tht); } n = 2, L = PhSCH_2CH_2SPh]$ . Crystal and molecular structure of  $Nb_2Cl_4S_2 \cdot 4tht$ , 417–22

**TETRAKIS(METHYLTHIO)ETHANE**

Pyramidal inversion in configurational isomers of tetracarbonyl[1,1,2,2-tetrakis(methylthio)ethane]chromium(0): a two-dimensional nuclear magnetic resonance exchange study, 2195–202

**TETRAPHOSPHADITHIACYCLODOCOSANE**

Macrocyclic polyphosphane ligands. Cobalt(II) and nickel(II) complexes of 5*RS*,8*RS*,16*RS*,19*RS*-tetraphenyl-5,8,16,19-tetraphospha-1,12-dithiacyclodocosane ( $\delta$ -L<sup>1</sup>) and the crystal structure of  $[Co(\delta-L^1)]_2[BF_4]_2 \cdot 0.5H_2O$ , 1179–82

**TETRAPHOSPHADITHIACYCLO-OCTADECANE**

Macrocyclic polyphosphane ligands. Cobalt(II) and nickel(II) complexes of the  $\gamma$  and  $\epsilon$  diastereoisomers of 4,7,13,16-tetraphenyl-4,7,13,16-tetraphospha-1,10-dithiacyclo-octadecane (L<sup>1</sup>) and the crystal structure of  $[Co(\epsilon-L^1)]_2[BPh_4]_2 \cdot EtOH$ , 1425–30

**TETRATHIAFULVALENE**

*X*-Ray crystal structures and properties of tris(tetrathiafulvalenium) tetrachlorodimethylstannate(IV) and tetrathiafulvalenium trichlorodimethylstannate (IV), 465–70

**THERMODYNAMICS**

Zinc–sulphur bond enthalpy: its determination in bis(diethylthiocarbamato)zinc(II), 369–72

Thermochemistry of polyhalides. Part 5. Standard enthalpies of formation of tetramethylammonium and tetraethylammonium tetrachloroiodates, 997–1000

Thermochemical data for adducts of zinc, cadmium, and mercury halides with hexamethylphosphoramide, 1103–6

Solution chemistry of macrocycles. Part 4. Thermodynamics of

protonation and complexation of several  $N_2S_2$  macrocycles, 1169–72

Thermodynamics of the actinoid elements. Part 6. The preparation and heats of formation of some sodium uranates(VI), 1853–8

Thermodynamic treatment of exchange of  $H^+$  and  $K^+$  in  $\alpha$ -titanium phosphate, 1865–8

On the possibility of determining the thermodynamic parameters for the formation of weak complexes using a simple model for the dependence on ionic strength of activity coefficients:  $Na^+$ ,  $K^+$ , and  $Ca^{2+}$  complexes of low molecular weight ligands in aqueous solution, 2353–62

**THERMOLYSIS**

A kinetic study of the gas-phase thermolysis of hexaborane(10), 541–8

**THIADECABORANE**

Electronic structures of the *closo*-thiaboranes 1-SB<sub>9</sub>H<sub>9</sub> and 1-SB<sub>11</sub>H<sub>11</sub>. Electrophilic substitution in 1-SB<sub>9</sub>H<sub>9</sub>, 2591–4

**THIADODECABORANE**

Electronic structures of the *closo*-thiaboranes 1-SB<sub>9</sub>H<sub>9</sub> and 1-SB<sub>11</sub>H<sub>11</sub>. Electrophilic substitution in 1-SB<sub>9</sub>H<sub>9</sub>, 2591–4

**THIOCARBONYL**

Fragmentation of co-ordinated carbon disulphide and dithiocarbene ligands by nucleophilic attack at carbon: the crystal structure of  $[(Ph_3P)IPt(\mu-SMe)(\mu-CSMe)PtI(PPh_3)] \cdot Me_2CO$ , 2595–602

**THIOCYANATE**

The red form of bis(1,10-phenanthroline)dithiocyanatoiron(II), 991–6

Characterization of the adducts formed by Cu(CN) and Cu(NCS) with biquinoline. The crystal structure of the polymeric cyanocompound containing both linear and tetrahedrally co-ordinated copper(I),  $[Cu_3(bq)_2(CN)_3]_n$ , 1285–8

**THIOETHER**

Synthesis and properties of dioxo-osmium(VI) compounds of thio- and seleno-ethers, 205–8

Reactions of sulphoxide–thioether bidentate ligands with platinum(II). Determination of the mode of binding by cyclic voltammetry, 209–12

Static and dynamic nuclear magnetic resonance studies of complexes of trimethylplatinum(IV) halides with olefinic thio- and seleno-ethers. *X*-Ray crystal structures of

$[PtXMe_3(MeSeCH=CHSeMe)]$  ( $X = Cl \text{ or } I$ ), 345–54

Copper complexes with quadridentate bis(pyrazolyl)thioether amine and tris(pyrazolyl)amine ligands. Structural characterization of the complexes  $[Cu(NCS)(tpea)]$ ,  $[Cu(NCS)_2]$  and  $[CuCl(bdma)]Cl \cdot 2H_2O$ , 2327–32

**THIONITROSYL**

Reaction of trithiazyl trichloride, (NSCl)<sub>3</sub>, with triphenylphosphine or triphenylphosphine metal complexes. *X*-Ray crystal structure of aminotriphenylphosphonium chloride–dichloromethane (1/1),  $[Ph_3PNH_3]Cl \cdot CH_2Cl_2$ , 1043–8

**THIONITROSYL CHLORIDE**

Thiazyl chloride complexes of ruthenium(II), 2449–52

**THIOPHENOLATE**

Rhenium nitrosyl complexes with simple and with sterically demanding aromatic thiolate ligands: *X*-ray crystal structures of  $[PPh_4][Re_2(SC_6H_4Me-4)_7(NO)_2] \cdot CH_2Cl_2$  and  $[Re(SC_6H_3Pr^i-2,6)_4(NO)]$ , 1533–42

**THIOPYRIDINE OXIDE**

Comparison between the bis(2-thiopyridine *N*-oxide) derivatives of Cu<sup>II</sup> and Ni<sup>II</sup>: an electron spin resonance study, 379–82

**THIOUREA**

Oxidation of thiourea by iodate: a new type of oligo-oscillatory reaction, 1669–72

**TIN**

Subvalent group 4B metal alkyls and amides. Part 7. Transition-metal chemistry of metal(II) bis(trimethylsilyl)amides  $M'(NR_2)_2$  ( $R = SiMe_3$ ;  $M' = Ge, Sn, \text{ or } Pb$ ), 51–8

Tin-119 Mössbauer and nuclear magnetic resonance studies of organotin compounds. Part 1. Sterically crowded tetraorganotin derivatives, 169–76

Intercalation of alkylamines into tin(IV) bis(hydrogenphosphate) monohydrate, 213–4

Chemical and structural aspects of silver–triphenylarsine complexes and silver–tin complex salts, 321–32

The preparation and co-ordination chemistry of 2,2':6',2"-terpyridine macrocycles. Part 4. Structural characterisation of an intermediate in a transient template reaction, 333–6

Tin–molybdenum oxides. A study by *X*-ray diffraction, Mössbauer spectroscopy, and electron spin resonance, 451–4

**TIN** (contd)

*X*-Ray crystal structures and properties of tris(tetrathiafulvalenium) tetrachlorodimethylstannate(IV) and tetrathiafulvalenium trichlorodimethylstannate (IV), 465–70

Investigation into diphosphine oxides as ligands in diorganotin(IV) adducts. Part 3. Synthesis and crystal structure of two adducts of dinitratodiphenyltin(IV) with *cis*- and *trans*-1,2-bis(diphenylphosphoryl)ethylene, 487–92

Studies on the anti-tumour activity of di- and tri-organotin(IV) complexes of amino acids and related compounds, of 2-mercaptoethanesulphonate, and of purine-6-thiol, 523–8

The crystal structure of diaquadichlorodimethyltin(IV)-purine (1/4), 1271–4

A tin-119 Mössbauer study of tin(II) fluoride, 1275–6

Mössbauer study of the *cis*-*trans* isomers of tin(IV) complexes.

Some considerations about the sign of the electric-field gradient, 1281–4

Bromine nuclear quadrupole resonance studies of some hexabromostannates: *X*-Ray crystal structure of pyridinium hexabromostannate(IV), [Hpy]<sub>2</sub>[SnBr<sub>6</sub>], 1399–404

Organotin biocides. Part 2. Variable-temperature <sup>119</sup>Sn Mössbauer study of phenyl- and cyclohexyl-tin compounds, 1417–24

Methyltin hydrides in fluorosulphuric acid, 2671–6

A novel pentameric hydrolysis product of SnMe<sub>2</sub>Cl<sub>2</sub>: crystal and molecular structure of [NHET<sub>3</sub>][(SnMe<sub>2</sub>Cl)<sub>5</sub>O<sub>3</sub>], 2683–6

**TIN-119**

Tin-119 Mössbauer and nuclear magnetic resonance studies of organotin compounds. Part 1. Sterically crowded tetraorganotin derivatives, 169–76

Methyltin hydrides in fluorosulphuric acid, 2671–6

**TITANIUM**

Coloured species formed from the titanium(IV)-4-(2'-pyridylazo)resorcinol reagent in the spectrophotometric determination of trace amounts of hydrogen peroxide, 81–4

Mono- $\eta$ -cycloheptatrienyltitanium chemistry: synthesis, molecular and electronic structures, and reactivity of the complexes [Ti( $\eta$ -C<sub>7</sub>H<sub>7</sub>)L<sub>2</sub>X] (L = tertiary phosphine, O- or N-donor ligand; X = Cl or alkyl), 669–84

Thermodynamic treatment of exchange of H<sup>+</sup> and K<sup>+</sup> in  $\alpha$ -titanium phosphate, 1865–8

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 37. Methylene group transfer to carbon-metal multiple bonds; crystal structures of [TiW{ $\mu$ -C(C<sub>6</sub>H<sub>4</sub>Me-4)=CH<sub>2</sub>}( $\mu$ -CO)(CO)( $\eta$ -C<sub>5</sub>H<sub>5</sub>)<sub>3</sub>] and [PtW{ $\mu$ -C(C<sub>6</sub>H<sub>4</sub>Me-4)=CH<sub>2</sub>}(CO)<sub>2</sub>(PMe<sub>3</sub>)<sub>2</sub>( $\eta$ -C<sub>5</sub>H<sub>5</sub>)], 2009–16

Synthesis, structure, and bonding of fulvene complexes of titanium, molybdenum, and tungsten, 2037–50

**TOLUENEDITHIOLATE**

Toluene-3,4-dithiol (H<sub>2</sub>tdt) complexes of Group 5B halides.

Observations of lone-pair stereochemical activity and redox behaviour. Crystal and molecular structures of [AsCl(tdt)] and [PPh<sub>4</sub>][Sb(tdt)<sub>3</sub>], 69–74

**TOLYLETHENYL**

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 37. Methylene group transfer to carbon-metal multiple bonds; crystal structures of [TiW{ $\mu$ -C(C<sub>6</sub>H<sub>4</sub>Me-4)=CH<sub>2</sub>}( $\mu$ -CO)(CO)( $\eta$ -C<sub>5</sub>H<sub>5</sub>)<sub>3</sub>] and [PtW{ $\mu$ -C(C<sub>6</sub>H<sub>4</sub>Me-4)=CH<sub>2</sub>}(CO)<sub>2</sub>(PMe<sub>3</sub>)<sub>2</sub>( $\eta$ -C<sub>5</sub>H<sub>5</sub>)], 2009–16

**TOLYLMETHYLENE**

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 35. The synthesis and crystal structures of the compounds [N(PPh<sub>3</sub>)<sub>2</sub>][W<sub>2</sub>{ $\mu$ -C(H)C<sub>6</sub>H<sub>4</sub>Me-4}(CO)<sub>7</sub>( $\eta$ -C<sub>5</sub>H<sub>5</sub>)}-0.5Et<sub>2</sub>O] and [W{C(H)C<sub>6</sub>H<sub>4</sub>Me-4}-(SnPh<sub>3</sub>)(CO)<sub>2</sub>( $\eta$ -C<sub>5</sub>H<sub>5</sub>)}, 1331–8

**TOLYLMETHYLDIYNE**

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 36. Reactions of the dimetal compounds [ReM( $\equiv$ CC<sub>6</sub>H<sub>4</sub>Me-4)(CO)<sub>9</sub>] (M = Cr, Mo, or W) with octacarbonyldicobalt; crystal structures of [Co<sub>2</sub>WRe( $\mu$ -3-CC<sub>6</sub>H<sub>4</sub>Me-4)(CO)<sub>15</sub>] and [Co<sub>2</sub>Re( $\mu$ -3-CC<sub>6</sub>H<sub>4</sub>Me-4)(CO)<sub>10</sub>], 2001–8

**TRANSIENT**

Equilibrium and kinetic study of the reaction between phthalocyaninatoiron(II) and carbon monoxide in dimethyl sulphoxide in the presence of pyridine. Evidence for the formation of a transient, 1113–8

**TRANSITION METAL**

Synthesis and properties of the divalent 1,2-bis(dimethylphosphino)ethane (dmpe) complexes MCl<sub>2</sub>(dmpe)<sub>2</sub>

and MMe<sub>2</sub>(dmpe)<sub>2</sub> (M = Ti, V, Cr, Mn, or Fe). *X*-Ray crystal structures of MCl<sub>2</sub>(dmpe)<sub>2</sub> (M = Ti, V, or Cr), MnBr<sub>2</sub>(dmpe)<sub>2</sub>, TiMe<sub>1.3</sub>Cl<sub>0.7</sub>(dmpe)<sub>2</sub>, and CrMe<sub>2</sub>(dmpe)<sub>2</sub>, 1339–48

Studies of pendant-arm macrocyclic ligands. Part 4. Two penta-aza macrocycles based on 1-(2'-dimethylaminoethyl)-1,5,9,13-tetraazacyclohexadecane and its complexes with bivalent metal ions, 1361–4

**TRICYCLOUNDECADIENYL**

Annellation of ring-opened arylcyclopropenium ions to co-ordinated cyclo-octatetraene, and the *X*-ray crystal structure of [Fe(CO)<sub>3</sub>( $\sigma$ , $\eta^3$ -C<sub>11</sub>H<sub>9</sub>Ph<sub>3</sub>)], 777–82

**TRIETHYLAMINE**

Ligand substitution on (*N,N*-dimethylformamide)[2,2',2''-tri(*N,N*-dimethylamino)triethylamine]cobalt(II), 413–6

**TRIETHYLENETETRAMINE**

Carbon-13 nuclear magnetic resonance study of the complexes formed between zinc(II) and triethylenetetramine, 2381–6

**TRIFLUOROACETATE**

Complexes of the platinum metals. Part 23. Synthesis of the nitrosyl carboxylate complexes [M(O<sub>2</sub>CR)<sub>2</sub>(NO)(PPh<sub>3</sub>)<sub>2</sub>] (M = Rh or Ir; R = CF<sub>3</sub>, C<sub>2</sub>F<sub>5</sub>, or C<sub>6</sub>F<sub>5</sub>); crystal and molecular structures of the trifluoroacetate derivatives [M(O<sub>2</sub>CCF<sub>3</sub>)<sub>2</sub>(NO)(PPh<sub>3</sub>)<sub>2</sub>], 611–6

Complexes of the platinum metals. Part 25. Reactions of ruthenium and osmium nitrosyls [MH(NO)(PPh<sub>3</sub>)<sub>3</sub>] and [M(NO)<sub>2</sub>(PPh<sub>3</sub>)<sub>2</sub>] with perfluorocarboxylic acids: *X*-ray crystal structure determination of nitrosyl(trifluoroacetato)-(trifluoroacetato)hydroximato-*OO'*)bis(triphenylphosphine)osmium(II)-dichloromethane (1/1), 621–8

Complexes of lanthanoid salts with macrocyclic ligands. Part 17. Synthesis and crystal and molecular structure of a hydroxide-bridged praseodymium trifluoroacetate complex with 15-crown-5-ether. [Pr<sub>2</sub>(CF<sub>3</sub>CO<sub>2</sub>)<sub>3</sub>(OH)(C<sub>10</sub>H<sub>20</sub>O<sub>5</sub>)<sub>2</sub>]-[Pr<sub>2</sub>(CF<sub>3</sub>CO<sub>2</sub>)<sub>6</sub>], 885–90

**TRIFLUOROACETIC ACID**

Complexes of the platinum metals. Part 24. The role of dioxygen in the reactions of trifluoroacetic acid with the rhodium and iridium nitrosyls [M(NO)(PPh<sub>3</sub>)<sub>3</sub>], 617–20

**TRIFLUOROACETOHYDROXIMATE**

Complexes of the platinum metals. Part 25. Reactions of ruthenium and osmium nitrosyls [MH(NO)(PPh<sub>3</sub>)<sub>3</sub>] and [M(NO)<sub>2</sub>(PPh<sub>3</sub>)<sub>2</sub>] with perfluorocarboxylic acids: *X*-ray crystal structure determination of nitrosyl(trifluoroacetato)-(trifluoroacetato)hydroximato-*OO'*)bis(triphenylphosphine)osmium(II)-dichloromethane (1/1), 621–8

**TRIFLUOROMETHYL**

The molecular structure of gaseous bis(trifluoromethyl)selenium difluoride as determined by electron diffraction, 941–6

A disagreement on the explanation of short and long As–O bonds of the (As–O)<sub>4</sub> ring in As<sub>4</sub>(CF<sub>3</sub>)<sub>6</sub>O<sub>6</sub>(OH)<sub>2</sub> in terms of As<sup>III</sup>–O and As<sup>V</sup>–O bonds, 2221–2

**TRIKETONE**

Reactions of metal ions with triketones in solution. Part 1. Formation constants for the systems of heptane-2,4,6-trione, 1-phenylhexane-1,3,5-trione, 1,5-diphenylpentane-1,3,5-trione, and 2,2'-dihydroxybenzophenone with proton, nickel(II), and cobalt(II), 1543–6

**TRIMETHYLSILYL**

Subvalent group 4B metal alkyls and amides. Part 7. Transition-metal chemistry of metal(II) bis(trimethylsilyl)amides M'(NR<sub>2</sub>)<sub>2</sub> (R = SiMe<sub>3</sub>; M' = Ge, Sn, or Pb), 51–8

Synthesis of  $\alpha$ -lithioarylmethanes of *m*-xylene and its  $\alpha$ -trimethylsilyl derivatives; crystal structure of

[{Li(Me<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>NMe<sub>2</sub>)<sub>2</sub>}{C<sub>6</sub>H<sub>4</sub>(CHSiMe<sub>3</sub>)<sub>2</sub>-*m*}], 337–44

Purification and *X*-ray crystal structure of bis[tris(trimethylsilyl)methyl]diarsene, 383–6

**TRIMETHYLSILYLMETHYL**

Oxoalkyls of rhenium(-V) and (-VI). *X*-Ray crystal structures of (Me<sub>4</sub>ReO)<sub>2</sub>Mg(thf)<sub>4</sub>, [(Me<sub>3</sub>SiCH<sub>2</sub>)<sub>4</sub>ReO]<sub>2</sub>Mg(thf)<sub>2</sub>, Re<sub>2</sub>O<sub>3</sub>Me<sub>6</sub>, and Re<sub>2</sub>O<sub>3</sub>(CH<sub>2</sub>SiMe<sub>3</sub>)<sub>6</sub>, 2167–76

**TRINITROBENZENE**

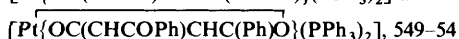
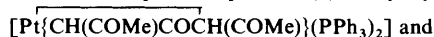
Synthesis and characterization of a new family of binuclear copper(II) complexes with a flexible bridge and the  $\pi$ - $\pi$  type charge-transfer interaction with 1,3,5-trinitrobenzene, 107–10

**TRIONE**

Chemistry of metallacyclobutanones. Part 3. Reactions of heptane-2,4,6-trione and 1,5-diphenylpentane-1,3,5-trione with some

**TRIONE** (contd)

carbonyl complexes of platinum(II); X-ray crystal structures of

**TRIPHENYLSTANNYL**

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 35. The synthesis and crystal structures of the compounds  $[\text{N}(\text{PPh}_3)_2][\text{W}_2\{\mu\text{-C}(\text{H})\text{C}_6\text{H}_4\text{Me-4}\}(\text{CO})_7(\eta\text{-C}_5\text{H}_5)]\cdot 0.5\text{Et}_2\text{O}$  and  $[\text{W}\{\mu\text{-C}(\text{H})\text{C}_6\text{H}_4\text{Me-4}\}(\text{SnPh}_3)(\text{CO})_2(\eta\text{-C}_5\text{H}_5)]$ , 1331-8

**TRISELENOCARBONATE**

Sulphur-containing metal complexes. Part 14. Reactions of carbene anions with carbon disulphide or carbon diselenide, 1963-6

**TRITHIATETRAPHOSPHABICYCLOHEPTANE**

Intermediates in the photochemical reaction of tetraphosphorus trisulphide with organic disulphides; phosphorus-31 nuclear magnetic resonance parameters for 2,6-bis(alkylthio)- and 2,6-diiodo-3,5,7-trithia-1,2,4,6-tetraphosphabicyclo[2.2.1]heptanes and for 3,6-bis(alkylthio)-2,5,7-trithia-1,3,4,6-tetraphosphabicyclo[2.2.1]heptanes, 1707-12

**TRITHIATETRAPHOSPHABICYCLOHEPTYL**

Phosphorus-phosphorus bond cleavage in the cage molecule  $\text{P}_4\text{S}_3$ ; synthesis and crystal structure of the trinuclear platinum complex  $[\{\text{Pt}(\mu\text{-P}_4\text{S}_3)(\text{PPh}_3)_3\}]_3\cdot\text{C}_6\text{H}_6$ , 291-6

**TRITHIOLANE**

Reaction of bis(morpholiniothiocarbonyl) disulphide with iodine.

Existence of a 1:1 charge-transfer precursory adduct in an oxidation reaction. Isolation and crystal structure of bis[3,5-di(N-morpholinio)-1,2,4-trithiolane] hexadecafluoride, 1349-54

**TUNGSTEN**

Reaction of bis- $\mu$ -diethylphosphido-bis(tetracarbonylmetal) ( $M-M$ ) ( $M = \text{Cr}$  or  $\text{W}$ ) with tri-*n*-butylphosphine: kinetics and mechanism of a reaction involving seven-co-ordinate complexes, 91-8

Heteropolytungstates as catalysts for the photochemical reduction of oxygen and water, 395-400

Trimethylphosphine polyhydrides of tungsten and rhenium, 587-90

Formation of substituted cyclopentadienyl ligands on tungsten *via* reactions between the alkyl complexes  $[\text{W}(\text{CO})(\text{R}^1\text{C}_2\text{R}^2)_3]$  ( $\text{R}^1 = \text{R}^2 = \text{Ph}$  or  $\text{Et}$ ;  $\text{R}^1 = \text{Me}$ ,  $\text{R}^2 = \text{Ph}$ ) and the alkylidene compounds  $[\text{W}(\equiv\text{CR})(\text{CO})_2(\eta\text{-C}_5\text{H}_5)]$  ( $\text{R} = \text{C}_6\text{H}_4\text{Me-4}$  or  $\text{Me}$ ); X-ray crystal structures of  $[\text{W}_2(\mu\text{-CO})_2(\text{CO})(\eta\text{-PhC}_2\text{Ph})(\eta\text{-C}_5\text{Ph}_4\text{R})(\eta\text{-C}_5\text{H}_5)]$  and  $[\text{W}_2(\mu\text{-EtC}_2\text{Et})(\text{CO})_4(\eta\text{-C}_5\text{Et}_4\text{R})(\eta\text{-C}_5\text{H}_5)]$  ( $\text{R} = \text{C}_6\text{H}_4\text{Me-4}$ ), 905-12

Reaction of transition-metal carbonylate anions and 1,1,1-tris(halogenomethyl)ethane. X-Ray crystal structures of tricarbonyl( $\eta^5$ -cyclopentadienyl)(1-methylcyclopropylmethyl)tungsten(II), and tetraethylammonium enneacarbonyliodidate(O), 931-40

Bimetallic systems. Part 9. The synthesis of and nuclear magnetic resonance studies on 10-membered ring complexes of type  $[(\text{OC})_4\text{M}^1(\mu\text{-Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2)_2\text{M}^2(\text{CO})_4]$  ( $\text{M}^1, \text{M}^2 = \text{Cr}, \text{Mo}, \text{or W}$ ), 1009-14

Isolated CH stretching frequencies, methyl group geometry, and methyl CH bond lengths and strengths in tricarbonyl( $\eta^5$ -cyclopentadienyl)methylchromium(II), -molybdenum(II), and -tungsten(II), 1207-12

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 33. Reactions of  $[\text{W}(\equiv\text{CMe})(\text{CO})_2(\eta\text{-C}_5\text{H}_5)]$  with the dimetal compounds  $[\text{MRh}(\mu\text{-CO})_2(\eta\text{-C}_5\text{Me}_5)_2]$  ( $\text{M} = \text{Co}$  or  $\text{Rh}$ ); X-ray crystal structure of  $[\text{Rh}_2\text{W}(\mu\text{-CO})(\mu_3\text{-CMe})(\text{CO})_2(\eta\text{-C}_5\text{H}_5)(\eta\text{-C}_5\text{Me}_5)_2]$ , 1315-22

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 34. Reactions of sulphur and selenium with the di-iron-tungsten complexes  $[\text{Fe}_2\text{W}(\mu_3\text{-CR})(\mu\text{-CO})(\text{CO})_8(\eta\text{-C}_5\text{H}_5)]$  ( $\text{R} = \text{C}_6\text{H}_4\text{Me-4}$  or  $\text{Me}$ ); crystal structures of  $[\text{Fe}_2\text{W}(\mu\text{-CC}_6\text{H}_4\text{Me-4})(\mu_3\text{-S})(\text{CO})(\eta\text{-C}_5\text{H}_5)]$  and  $[\text{Fe}_2\text{W}(\mu_3\text{-SCMe})(\text{CO})_8(\eta\text{-C}_5\text{H}_5)]$ , 1323-30

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 35. The synthesis and crystal structures of the compounds  $[\text{N}(\text{PPh}_3)_2][\text{W}_2\{\mu\text{-C}(\text{H})\text{C}_6\text{H}_4\text{Me-4}\}(\text{CO})_7(\eta\text{-C}_5\text{H}_5)]\cdot 0.5\text{Et}_2\text{O}$  and  $[\text{W}\{\mu\text{-C}(\text{H})\text{C}_6\text{H}_4\text{Me-4}\}(\text{SnPh}_3)(\text{CO})_2(\eta\text{-C}_5\text{H}_5)]$ , 1331-8

Preparation and properties of *cis*- $[\text{W}(\text{N}_2)_2(\text{Ph}_2\text{PCH}_2\text{PPh}_2)_2]$  and *trans*- $[\text{M}(\text{N}_2)_2(\text{Ph}_2\text{PCH}=\text{CHPPh}_2)_2]$  ( $\text{M} = \text{Mo}$  or  $\text{W}$ ), and the crystal structure of *cis*- $[\text{W}(\text{N}_2)_2(\text{PMe}_2\text{Ph})_4]$ , 1523-6

Pyramidal inversions and 1,2-metal shifts in pentacarbonylchromium, -molybdenum, and -tungsten derivatives of dialkyl

disulphides and dialkyl diselenides. A nuclear magnetic resonance investigation, 1561-8

Dynamic nuclear magnetic resonance study of Group 6 metal pentacarbonyl complexes. Pyramidal inversion and 1,2-metal shifts in the complexes  $[\text{M}(\text{CO})_5(\text{Me}_2\text{CCH}_2\text{EECH}_2)]$  ( $\text{M} = \text{Cr}, \text{Mo}, \text{or W}$ ;  $\text{E} = \text{S}$  or  $\text{Se}$ ), 1569-76

The kinetics and stoichiometry of silver(III) reduction by the octacyano-complexes of molybdenum(IV) and tungsten(IV), 1789-94

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 36. Reactions of the dimetal compounds  $[\text{ReM}(\equiv\text{CC}_6\text{H}_4\text{Me-4})(\text{CO})_9]$  ( $\text{M} = \text{Cr}, \text{Mo}, \text{or W}$ ) with octacarbonyldicobalt; crystal structures of  $[\text{Co}_2\text{WRe}(\mu_3\text{-CC}_6\text{H}_4\text{Me-4})(\text{CO})_{15}]$  and  $[\text{Co}_2\text{Re}(\mu_3\text{-CC}_6\text{H}_4\text{Me-4})(\text{CO})_{10}]$ , 2001-8

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 37. Methylene group transfer to carbon-metal multiple bonds; crystal structures of  $[\text{TiW}\{\mu\text{-C}(\text{C}_6\text{H}_4\text{Me-4})=\text{CH}_2\}(\mu\text{-CO})(\text{CO})(\eta\text{-C}_5\text{H}_5)_3]$  and  $[\text{PtW}\{\mu\text{-C}(\text{C}_6\text{H}_4\text{Me-4})=\text{CH}_2\}(\text{CO})_2(\text{PMe}_3)_2(\eta\text{-C}_5\text{H}_5)]$ , 2009-16

Chemistry of di- and tri-metal complexes with bridging carbene or carbyne ligands. Part 38. Ruthenium-tungsten compounds: crystal structures of  $[\text{RuW}(\mu\text{-Cl})(\mu\text{-CMe})(\text{Cl})(\text{CO})_2(\text{PPh}_3)_2(\eta\text{-C}_5\text{H}_5)]$  and  $[\text{RuW}_2(\mu_3\text{-C}_2\text{Me}_2)(\text{CO})_7(\eta\text{-C}_5\text{H}_5)_2]$ , 2017-24

Trimethylphosphine as a reactive solvent: synthesis, crystal structures, and reactions of  $[\text{Ta}(\text{PMe}_3)_3(\eta^2\text{-CH}_2\text{PMe}_2)(\eta^2\text{-CHPMe}_2)]$  and  $[\text{W}(\text{PMe}_3)_4(\eta^2\text{-CH}_2\text{PMe}_2)\text{H}]$  and related studies, 2025-36

Synthesis, structure, and bonding of fulvene complexes of titanium, molybdenum, and tungsten, 2037-50

Preparation and crystal structure of  $[\text{AsPh}_4]_2[(\text{WCl}_5)_2\{\mu\text{-NC}(\text{CF}_3)_2\text{N}\}]$ , 2205-8

Co-ordinatively unsaturated diene complexes of tungsten(II) and their reactions with nucleophiles to give six- and seven-co-ordinate derivatives, 2231-8

Synthesis and nuclear magnetic resonance studies of co-ordinatively unsaturated alkyne complexes of tungsten(II), 2239-46

Reaction of the anion  $[\text{WCl}_4(\text{CBu}^t)]^-$  with tetrasulphur tetranitride. Formation and crystal structure of  $[\text{AsPh}_4][\text{WCl}_4(\text{OS}_2\text{N}_2)]$ , 2453-6

Nitrogen-15 nuclear magnetic resonance relaxation mechanisms in dinitrogen complexes of molybdenum, tungsten, rhenium, and osmium, 2473-8

Complexes of molybdenum(-II) and (-IV) and tungsten(II) with sterically hindered thiolate ligands. Synthesis, reactivity, and X-ray crystal structures of  $[\text{PPh}_4][\text{Mo}(\text{SC}_6\text{H}_4\text{Pr}^i\text{-2,4,6})(\text{CO})_2]$  and  $[\text{Mo}(\text{NNPh})(\text{SC}_6\text{H}_4\text{Pr}^i\text{-2,4,6})_3(\text{NCMe})]$ , 2639-46

Molybdenum, rhenium, and tungsten complexes with bi- and tridentate phosphinothiolato-ligands; structures of  $[\text{Mo}\{\text{PhP}(\text{CH}_2\text{CH}_2\text{S})_2\}_2]$  and  $[\text{Mo}(\text{NNMe}_2)\{\text{PhP}(\text{CH}_2\text{CH}_2\text{S})_2\}_2]$ , 2647-54

**TYROSINE**

Specific binding of the tyrosine residue in copper(II) complexes of Tyr-Pro-Gly-Tyr and Tyr-Gly-Pro-Tyr, 1201-6

**URANIUM**

Synthesis and structural assessment of ammonium and caesium difluorodioxoperoxouranates(VI),  $\text{A}_2[\text{UO}_2(\text{O}_2)\text{F}_2]$  ( $\text{A} = \text{NH}_4$  or  $\text{Cs}$ ), and alkali-metal difluorodioxoperoxouranate(VI) monohydrates,  $\text{A}_2[\text{UO}_2(\text{O}_2)\text{F}_2]\cdot\text{H}_2\text{O}$  ( $\text{A} = \text{K}$  or  $\text{Rb}$ ), 409-12

Glycine complexation with uranyl ion: absorptiometric, luminescence, and X-ray structural studies of tetrakis(glycine)dioxouranium(VI) nitrate, 517-22

Solvent effects on the redox potential of the uranium(VI)-uranium(V) couple, 601-4

Kinetics and mechanism of single electron oxidations of the tervalent uranium ion,  $\text{U}^{3+}(\text{aq})$ , by free radicals in aqueous solutions, 641-4

Actinide structural studies. Part 7. The crystal and molecular structures of (2,2'-bipyridyl)dinitratodioxo-uranium(VI) and -neptunium(VI), and diacetato(2,2'-bipyridyl)dioxo-uranium(VI) and -neptunium(VI), 1001-8

Thermodynamics of the actinoid elements. Part 6. The preparation and heats of formation of some sodium uranates(VI), 1853-8

Synthesis and characterisation of uranium(IV) nitrate complexes with piperazines, 1985-8

**URIDINE TRIPHOSPHATE**

Influence of decreasing solvent polarity (dioxane-water mixtures) on the stability and structure of binary and ternary complexes of adenosine 5'-triphosphate and uridine 5'-triphosphate, 2291-304



**VANADIUM**

High-field vanadium-51 and oxygen-17 nuclear magnetic resonance study of peroxovanadates(v), 1173-8

Reactions of bis(cyclopentadienyl)vanadium derivatives with nitrogen mono-oxide and the crystal structure of an oxo-bridged nitrosyl complex of vanadium, 1435-42

Axially asymmetric metal alkyls. Part 3. Chemical, electrochemical, and structural studies of group 5A  $d^{0,1,2}$  metallocenes  $[M\{(2-CH_2C_6H_4)_2\}(\eta-C_5H_5)_2]^z$  ( $M = Nb$  or  $Ta$ ;  $z = 1-, 0,$  or  $1+$ ); synthesis of  $[Nb\{2-CH_2(C_6H_4)_2Me-2'\}X(\eta-C_5H_5)_2]$  ( $X = Cl$  or  $CO$ ) and  $[M(\eta-C_5H_5)_2ClV]_2\{(2-CH_2C_6H_4)_2\}$ , and electrochemistry of  $[M(CH_2Ph)_{2-n}Cl_n(\eta-C_5H_5)_2]$  ( $n = 0, M = Nb,$  or  $Ta$ ;  $n = 1, M = V$ ), 1747-60

Oxygen exchange and protonation of polyanions: a multinuclear magnetic resonance study of tetradecavanadophosphate(9-) and decavanadate(6-), 1953-8

A kinetic study of the complexation of cysteine and related compounds with aqueous vanadium(II) and vanadium(III) at approximately neutral pH; the mediating role of sulphur compounds in electron transfer, 2461-8

Kinetics and mechanism of the equilibration reaction between (2,2',2''-nitrioltriethoxy)nitrosylvanadate(I-) and cyanide. Crystal structures of sodium (2,2',2''-nitrioltriethoxy)nitrosylvanadate(I)-sodium perchlorate tetrahydrate and of barium cyano(2,2',2''-nitrioltriethoxy)nitrosylvanadate(I) pentahydrate, 2493-8

**VANADIUM-51**

High-field vanadium-51 and oxygen-17 nuclear magnetic resonance study of peroxovanadates(v), 1173-8

**VINYLS**

Reactions of co-ordinated ligands. Part 33. Mononuclear  $\eta^2$ -vinyl complexes: synthesis, structure, and reactivity, 435-50

Organoruthenium(II) complexes formed by insertion reactions of some vinyl compounds and conjugated dienes into a hydrido-ruthenium bond, 873-8

**VINYLOXY**

Acid-induced displacement of acetaldehyde from a  $\mu$ -vinyloxy-triosmium cluster, 2479-82

**VITAMIN B<sub>12</sub>**

The chemistry of vitamin B<sub>12</sub>. Part 25. Mechanism of the  $\beta$ -elimination of olefins from alkylcorrinoids; evidence for an initial homolytic fission of the Co-C bond, 1613-8

The chemistry of vitamin B<sub>12</sub>. Part 26. Co-ordination of the malonitrile anion by Co<sup>III</sup> corrinoids: first experimental determination of equilibrium constants for the co-ordination of a tetrahedral carbanion by a transition-metal ion, 1619-22

**VITAMIN B<sub>6</sub>**

Metal complexes of vitamin B<sub>6</sub> related compounds. Crystal and molecular structures of aqua(5'-phosphopyridoxylidene-glycinato)copper(II) trihydrate and bis(pyridoxylidene-glycinato)nickel(II) hexahydrate, 2051-8

**WATER**

A kinetic study of the complexation of cysteine and related compounds with aqueous vanadium(II) and vanadium(III) at approximately neutral pH; the mediating role of sulphur compounds in electron transfer, 2461-8

**XANTHOSINE**

Influence of secondary ligands on the stability of metal-xanthosine

complexes in solution, 239-42

**X-RAY DIFFRACTION**

Tin-molybdenum oxides. A study by X-ray diffraction, Mössbauer spectroscopy, and electron spin resonance, 451-4

X-Ray diffraction determination of the cation distribution and oxygen positional parameter in polycrystalline spinels, 2155-60

Preparation, characterization, and physical properties of the series  $MPd_3S_4$  ( $M =$  rare earth), 2369-74

**XYLENE**

Synthesis of  $\alpha$ -lithioarylmethanes of *m*-xylene and its  $\alpha$ -trimethylsilyl derivatives; crystal structure of  $[Li(Me_2NCH_2CH_2NMe_2)]_2\{C_6H_4(CHSiMe_3)_2-m\}$ , 337-44

**YLIDE**

Synthesis of gold(I) and (III) complexes with carbonyl-stabilized phosphorus ylides. Crystal structure of  $[Au(PPh_3)_2\{\mu-C(PPh_3)CO_2Et\}]ClO_4$ , 1163-8

**ZINC**

The crystal structure and electronic properties of the complex acetatobis(1,10-phenanthroline)copper(II) perchlorate dihydrate, acetatobis(1,10-phenanthroline)copper(II) nitrate dihydrate, and acetatobis(1,10-phenanthroline)zinc(II) tetrafluoroborate dihydrate, 141-50

Preparation of 11-(2'-dimethylaminoethyl)-1,4,7-trimethyl-1,4,7,11-tetra-azacyclotetradecane, and characterisation of its nickel(II), copper(II), and zinc(II) complexes, 219-22

Zinc-sulphur bond enthalpy: its determination in bis(diethyldithiocarbamate)zinc(II), 369-72

Co-ordination of alkali metals by open-chain polyethers in transition metal complexes. Part 4. Variation in alkali-metal ion selectivity in cobalt and zinc complexes of 1-(*o*-carboxymethoxyphenoxy)-2-(*o*-hydroxyphenoxy)ethane (HL) and the X-ray and molecular structure of  $[Zn(NH_4L_2)_2]$ , 459-64

Thermochemical data for adducts of zinc, cadmium, and mercury halides with hexamethylphosphoramide, 1103-6

Potentiometric study of the complex-formation equilibria of manganese(II), cobalt(II), nickel(II), copper(II), and zinc(II) with ethylenediamine-*N*-acetic acid, 1605-8

Carbon-13 nuclear magnetic resonance study of the complexes formed between zinc(II) and triethylenetetramine, 2381-6

Investigation into aroylhydrazones as chelating agents. Part 7. Synthesis and spectroscopic characterization of complexes of Mn<sup>II</sup>, Co<sup>II</sup>, Ni<sup>II</sup>, Cu<sup>II</sup>, and Zn<sup>II</sup> with 2,6-diacetylpyridine bis(2-aminobenzoylhydrazone) and X-ray structure of chloro[2,6-diacetylpyridine bis(2-aminobenzoylhydrazone)](methanol)manganese(II) chloride monohydrate, 2387-92

Trigonal bipyramidal penta-aquazinc(II): crystal structure of penta-aquazinc(II) bis(3,3',3''-phosphinetriyl)tri(propionate)dizincate(II,II) heptahydrate, 2393-6

**ZIRCONIUM**

Insertion of NO into transition metal-aryl bonds: formation of zirconium complexes containing the  $[ON(R)NO]^-$  ( $R = Ph$  or  $p$ -MeC<sub>6</sub>H<sub>4</sub>) ligand, 405-8

Crystalline zirconium(IV) hydrogenarsenate hydrogenphosphate monohydrate: synthesis, ion-exchange properties, and thermal behaviour, 1737-42

