

# Author Index

- Abell, A. K. 297–302  
 Abraham, M. H. 1363–1369  
 Adabbo, H. E. 1156–1164  
 Adamic, K. J. 633–638  
 Adams, W. W. 1497–1504  
 Addonizio, M. L. 183–188  
 Agarwal, P. K. 1467–1471  
 Aharoni, S. M. 2171–2175  
 Akutsu, F. 1787–1790  
 Aldrich, P. D. 2289–2296  
 Ali, S. A. 2139–2144  
 Alig, I. 1543–1546  
 Allen, G. 244–250  
 Amano, M. 263–268  
 Amerik, Yu. B. 1370–1376  
 Andeen, C. G. 633–638  
 Anderson, J. M. 2032–2039, 2040–2046  
 Ando, I. 716–720  
 Andrade, J. D. 633–667  
 Andruzzi, F. 831–836  
 Antoun, S. 567–573  
 Aoyama, T. 1589–1592  
 Argon, A. S. 1680–1694  
 Arief, M. M. H. 1423–1425  
 Arranz, F. 1829–1832  
 Asakura, T. 1037–1040  
 Ashman, A. 639–647  
 Ashworth, A. J. 2105–2109  
 Aslanian, V. M. 755–757  
 Auman, B. C. 119–131, 132–138, 1407–1417  
 Avetisian, M. H. 755–757  
 Awodi, Y. W. 320–324  
 Aycock, W. 1165–1176  
 Ayvasian, S. R. 755–757
- Baas, J. M. A. 509–513  
 Bagrodia, S. 2207–2226  
 Bailly, C. 1009–1016  
 Baker, F. S. 1121–1126  
 Baker, W. E. 2057–2062  
 Bakhramov, A. D. 1543–1546  
 Bakhshae, M. 1605–1611  
 Baldrian, J. 217–223  
 Ballard, D. G. H. 3–9  
 Ballistreri, A. 139–146  
 Bantle, S. 863–872, 1990–1996, 1997–2003  
 Barbucci, R. 969–976  
 Barker, J. 601–616  
 Barlow, J. W. 1177–1184, 1721–1728, 2145–2150  
 Barrales-Rienda, J. M. 788–792  
 Barrie, J. A. 1217–1220  
 Barrow, M. J. 680  
 Bartczak, Z. 1627–1634  
 Bartko, J. 556–562  
 Barton, J. M. 1358–1367  
 Bauwens, J.-C. 1863–1868  
 Bauwens-Crowet, C. 1863–1868  
 Baysal, B. 961–968  
 Beghishev, V. P. 1349–1357  
 Bellenger, V. 1079–1086  
 Benvenuti, M. 969–976  
 Berghmans, H. 97–102  
 Bergmark, P. 1657–1661, 1662–1666  
 Bezzabotnov, V. Yu. 213–216  
 Bi, X.-T. 2346–2352  
 Biagini, E. 114–118  
 Bianchi, E. 813–816  
 Biermann, C. J. 2176–2178  
 Billi, A. 969–976  
 Binboga, N. 1767–1771  
 Blincow, P. J. 1824–1828  
 Blundell, D. J. 2248–2251  
 Bock, J. 2110–2115  
 Bohdanecky, M. 1207–1211  
 Bokobza, L. 1561–1565, 1876–1880  
 Bolotina, I. 1349–1357
- Bonardelli, P. 224–230  
 Borggreve, R. J. M. 1489–1496  
 Borjesson, L. 1803–1808  
 Borrajo, J. 1156–1164  
 Bose, A. 1959–1964  
 Bott, D. C. 601–616  
 Botto, P. A. 257–262  
 Boyce, M. E. 1680–1694  
 Boyer, R. F. 399–407  
 Bradbury, J. H. 1098–1104  
 Brash, J. L. 489–496  
 Briber, R. M. 38–46  
 Brinkhuis, R. 2310–2316  
 Brown, C. S. 601–616  
 Brown, H. R. 1472–1477  
 Brown, N. 1326–1330, 1505–1511  
 Bruce, P. G. 2324–2328  
 Bu, H. S. 1165–1176  
 Buckley, C. P. 69–85  
 Bui, V. T. 1041–1045  
 Bulai, A. 1349–1357  
 Bunsell, A. R. 751–754  
 Burchard, W. 817–824, 863–872, 1990–1996, 1997–2003  
 Burfield, D. R. 907–910  
 Burford, R. P. 1418–1422  
 Burgess, A. N. 3–9  
 Burghardt, W. R. 2085–2092
- Cabasso, I. 2052–2056  
 Cais, R. E. 617–626  
 Callais, P. A. 2317–2323  
 Campbell, D. S. 2157–2160, 2161–2165  
 Campos, A. 1455–1461  
 Camus, A. 1221–1226  
 Candau, S. J. 1334–1340  
 Cantow, H.-J. 119–131, 132–138, 1407–1417  
 Capistran, J. D. 567–573  
 Carr, P. L. 2070–2076  
 Carr, P. W. 1363–1369  
 Casolaro, M. 969–976  
 Catoire, B. 751–754  
 Cavaille, J. Y. 1841–1846, 2023–2031  
 Cawse, J. L. 356–367, 368–374  
 Ceccorulli, G. 2077–2080, 2081–2084  
 Celda, B. 1455–1461  
 Cerrai, P. 831–836  
 Cervinka, L. 1287–1292  
 Challa, G. 2310–2316  
 Chao, F. 668–674  
 Chaplin, R. P. 1418–1422  
 Chatani, Y. 1815–1820  
 Chatterjee, S. K. 519–524  
 Chauchard, E. A. 553–555  
 Chee, K. K. 977–979  
 Chen, C.-S. 1396–1402  
 Chen, C.-Y. 1396–1402  
 Chen, S. I. 1391–1395  
 Chen, W. P. 553–555  
 Chen-Tsai, C. H. Y. 2183–2189  
 Cheng, S. Z. D. 10–22  
 Chin, J. S. 1462–1466  
 Chiou, J. S. 1721–1728  
 Chuah, H. H. 2130–2133  
 Chujo, R. 1037–1040, 1087–1092, 1583–1588  
 Chundnovsky, A. 1315–1320  
 Ciferri, A. 813–816  
 Cimmino, S. 1190–1199  
 Cirillo, G. 224–230  
 Clarson, S. J. 189–192, 1561–1565  
 Cocchiaro, J. E. 574–580  
 Cockerham, M. P. 553–555  
 Cohn, D. 2018–2022  
 Conio, G. 813–816  
 Cooper, S. L. 758–767, 768–776  
 Coppola, F. 47–56
- Corkhill, P. H. 1758–1766  
 Costa, G. 114–118  
 Costa, M. 668–674  
 Cotton, J.-P. 1738–1748  
 Cowie, J. M. G. 503–508, 627–632, 1569–1572, 2262–2266  
 Cross, M. M. 435–440  
 Croucher, M. D. 1553–1560  
 Cudby, M. E. A. 1093–1097
- Dalton, L. R. 543–552  
 Daly, J. H. 1605–1611  
 Darling, G. D. 825–830  
 Davis, D. D. 617–626  
 Davis, F. J. 639–647  
 Day, R. J. 1833–1840  
 Debeauvais, F. 1334–1340  
 DeBolt, L. C. 416–422  
 Dekoninck, J. M. 3–9  
 Dellepiane, G. 563–566  
 Demura, M. 1037–1040  
 Deratani, A. 825–830  
 De Schryver, F. C. 97–102, 1561–1565, 1876–1880  
 DeVries, K. L. 663–667  
 Diaz-Calleja, R. 2190–2194, 2262–2266  
 Dincer, S. 279–282  
 Dodgson, K. 189–192, 985–990  
 Doherty, R. M. 1363–1369  
 Donkers, A. 97–102  
 Donofrio, J. 1326–1330  
 Dormoy, Y. 1334–1340  
 Douy, A. 147–154  
 Drotloff, H. 1200–1206  
 Dubey, K. S. 1341–1344  
 Dubro, D. W. 1478–1480, 1481–1484  
 Duckett, R. A. 257–262  
 Durand, D. 1435–1439  
 Dutta, P. K. 1467–1471  
 Duval, M. 793–797, 798–803
- Eby, R. K. 86–92  
 Eckhardt, H. 1959–1964  
 Edsman, K. 2267–2274  
 Edwards, S. F. 375–378  
 Egan, L. S. 1553–1560  
 Ehrlich, P. 587–592  
 Eisenberg, A. 885–888  
 Elix, J. A. 1098–1104  
 Elola, A. S. 651–658  
 Emeis, D. 1200–1206  
 Emery, J. R. 1435–1439  
 Erman, B. 727–732  
 Evans, J. 2324–2328  
 Ezzell, S. A. 1779–1786
- Faivre, J. P. 1881–1886  
 Farmer, B. L. 86–92  
 Farris, R. J. 1127–1132  
 Fatica, M. G. 918–922  
 Favier, J. C. 2093–2098  
 Feast, W. J. 593–600  
 Felekian, S. S. 755–757  
 Ferguson, R. 503–508, 2262–2266  
 Fernandez de Pierola, I. 231–235  
 Ferraris, J. P. 179–182  
 Fettes, L. J. 1990–1996, 1997–2003, 2252–2256  
 Finch, D. S. 675–679  
 Fink, H.-P. 1265–1270  
 Fischer, E. W. 1287–1292, 1640–1644  
 Flodin, P. 1657–1661, 1662–1666  
 Foister, R. T. 929–940  
 Foks, J. 2195–2199  
 Folkes, M. J. 1309–1314  
 Fong, C. W. 739–744  
 Fontanella, J. J. 633–638

## Author Index

- Fowler, M. E. 1177-1184, 1703-1711, 2145-2150  
 France, C. 710-712  
 Francillette, J. 1079-1086  
 Franke, H. 659-662  
 Frazier, C. C. 553-555  
 Frechet, J. M. J. 825-830, 1593-1598  
 Freilich, S. C. 1908-1914  
 Frenay, L. 97-102  
 Froelich, D. 1577-1582  
 Fujisaki, K. 2282-2288  
 Fujiwara, Y. 1253-1256  
 Fukada, K. 1887-1892  
 Furlani, A. 1221-1226  
 Fytas, G. 1640-1644
- 
- Gagnor, D. R. 567-573  
 Galeski, A. 1627-1634  
 Galin, J. C. 1937-1944, 2297-2303  
 Galin, M. 1937-1944  
 Gallot, B. 147-154  
 Gan, S. N. 1391-1395  
 Gantar, A. 1403-1406  
 Gardella, J. A. 1462-1466  
 Gardiner, E. 2052-2056  
 Garnier, F. 668-674  
 Garozzo, D. 139-146  
 Gattiglia, E. 114-118  
 Gavara, R. 1455-1461  
 Gaymans, R. J. 1489-1496  
 Gee, G. 386-392  
 Gelman, R. A. 918-922  
 George, M. H. 1217-1220, 2241-2243, 2244-2247  
 Gilbert, M. 1303-1308  
 Giles, J. R. M. 1977-1981  
 Gillen, K. T. 1345-1348  
 Giordano, C. 1876-1880  
 Giuffrida, M. 139-146  
 Glatzhofer, D. T. 449-453, 859-862  
 Gleitz, A. 859-862  
 Gol'der, M. 1349-1357  
 Gomez, C. 1455-1461  
 Gomez, M. A. 2227-2232  
 Gomez Ribelles, J. L. 2262-2266  
 Gomez-Anton, M. R. 2116-2121  
 Gordon, III, B. 585-586  
 Goto, T. 1253-1256  
 Gray, F. M. 1977-1981  
 Grebneva, V. S. 1370-1376  
 Greco, R. 47-56, 1185-1189, 1922-1928, 1929-1936  
 Greenbaum, S. G. 633-638  
 Grellier, P. L. 1363-1369  
 Grenier, P. 1030-1036, 2275-2281  
 Grenier-Loustalot, M.-F. 1030-1036, 2275-2281  
 Grinberg, F. A. 1075-1078  
 Grobelny, J. 843-846  
 Groeninckx, G. 2099-2104  
 Guenet, J. M. 1334-1340  
 Guha, S. 553-555  
 Gundiah, S. 1426-1428  
 Guyot, A. 1277-1281  
 Guzman, J. 2190-2194
- 
- Hagenah, J.-U. 1640-1644  
 Hagiwara, M. 1915-1921  
 Hahn, B. R. 201-208  
 Hahn, K. 1287-1292  
 Halary, J. L. 1881-1886  
 Hall, T. N. 1363-1369  
 Hamid, S. 325-331, 332-339  
 Hamielec, A. E. 489-496  
 Hancock, L. F. 585-586  
 Harris, R. K. 1093-1097  
 Harrison, I. R. 911-917, 1860-1862  
 Harrod, J. F. 1767-1771  
 Hatakeyama, H. 1282-1286  
 Hatakeyama, T. 1282-1286
- 
- Haward, R. N. 1485-1488  
 Hay, J. N. 2047-2051  
 Hayakawa, N. 236-240  
 Hayward, D. 1605-1611  
 He, T. 946-950, 1321-1325  
 Hearle, J. W. S. 441-448  
 Heijboer, J. 509-513  
 Hellmann, G. P. 1287-1292  
 Helminiak, T. E. 2130-2133  
 Hendra, P. J. 705-709, 710-712  
 Henton, D. E. 2063-2067  
 Hernandez-Fuentes, I. 231-235  
 Herrmann-Schönherr, O. 201-208  
 Heymans, N. 2009-2017  
 Hikosaka, M. 1257-1265  
 Hiltner, A. 2032-2039, 2040-2046  
 Hinkley, J. A. 1779-1786  
 Hirao, A. 303-310, 1005-1008  
 Hirasawa, E. 1965-1970  
 Hirose, T. 1298-1302  
 Hirschinger, J. 721-726  
 Hlavata, D. 213-216, 991-997  
 Ho, S. Y. 739-744  
 Hoarau, P. 1079-1086  
 Hodge, P. 1619-1626  
 Hodson, J. 251-256  
 Hoefnagel, M. A. 509-513  
 Hoerl, R. H. 918-922  
 Hoffman, R. C. 574-580  
 Hofmann, D. 1271-1276  
 Homan, J. G. 758-767, 768-776  
 Hoogsteen, W. 923-928  
 Hoorfar, A. 1619-1626  
 Horie, Y. 1025-1029  
 Horkay, F. 1139-1143  
 Horska, J. 1207-1211  
 Horta, A. 231-235, 2116-2121  
 Howard, P. 1717-1720  
 Hradil, J. 1593-1598  
 Hsu, S. L. 889-896  
 Hu, C. Z. 663-667  
 Hu, H. S. 574-580  
 Hu, L. 514-518  
 Hu, S. 2335-2345  
 Huber, K. 863-872, 1987-1989, 1990-1996, 1997-2003  
 Huglin, M. B. 2200-2206  
 Huhtala, J. 745-750  
 Hung, C.-C. 1062-1070  
 Husain, S. 2329-2334  
 Hwang, J. S. 2139-2144
- 
- Ichikawa, M. 269-278  
 Ichimura, T. 963-966, 1573-1576  
 Ikeda, K. 269-278  
 Ikeda, S. 1887-1892  
 Imai, K. 1025-1029  
 Imperato, A. 114-118  
 Inglefield, P. T. 1062-1070  
 Inoue, T. 103-108, 980-984  
 Inoue, Y. 1987-1092, 1583-1588  
 Ioan, S. 165-169  
 Ito, K. 1005-1008, 1589-1592  
 Ito, R. 23-32  
 Itsuno, S. 1005-1008  
 Ivanova, B. 217-223
- 
- Jakes, J. 873-880  
 Janeczek, H. 847-851  
 Janssen, F. 2009-2104  
 Jarry, J. P. 727-732, 1712-1716  
 Jasse, B. 1881-1886  
 Jaycox, G. D. 2179-2182  
 Jennings, B. R. 581-584  
 Jerome, R. 1566-1568  
 Jiang, B. Z. 1287-1292  
 Jinghua, Y. 1929-1936  
 Jishan, W. 119-131, 132-138  
 Jo, Y. S. 1087-1092, 1583-1588  
 Johari, G. P. 1841-1846, 2023-2031
- 
- Johnson, A. 320-324  
 Joks, Z. 1821-1823  
 Jolly, A. M. 1758-1766  
 Jones, A. A. 1062-1070  
 Jones, J. R. 1358-1367  
 Jones, R. 1619-1626  
 Judovits, L. H. 10-22
- 
- Kaeriyama, K. 1071-1074  
 Kafoglou, N. K. 2122-2129  
 Kalachandra, S. 1749-1752  
 Kaladas, J. J. 2110-2115  
 Kalfoglou, N. K. 497-502  
 Kallitsis, J. K. 2122-2129  
 Kalpalatha, A. 648-650  
 Kamiya, Y. 1298-1302  
 Kamlet, M. J. 1363-1369  
 Kammer, H. W. 47-56, 957-960  
 Kanamoto, T. 1517-1520  
 Karasawa, M. 23-32  
 Karasz, F. E. 567-573, 1009-1016, 1190-1199  
 Kashiwa, N. 1227-1231  
 Katagiri, S. 269-278  
 Kataoka, K. 1017-1024  
 Kataoka, T. 1787-1790  
 Katovic, Z. 33-37  
 Kavcic, M. 1403-1406  
 Kawanishi, K. 980-984  
 Kaye, A. 435-440  
 Keenan, M. R. 1345-1348  
 Keller, A. 697-704, 1899-1907  
 Kemmish, D. J. 2047-2051  
 Kennedy, J. P. 2207-2226  
 Kesavan, S. K. 241-243  
 Keskkula, H. 1703-1711, 2063-2067  
 Khoury, F. 38-46  
 Kiew, W. A., 2157-2160, 2161-2165  
 Kiler, J. 1851-1859  
 Kinjo, N. 2282-2288  
 Kinoshita, T. 1809-1814  
 Kirby, S. 1418-1422  
 Kisakurek, D. 1767-1771  
 Klein, P. G. 393-398  
 Kloosterboer, J. G. 1149-1155  
 Klyuchnikov, V. N. 1349-1357  
 Knoesel, R. 2297-2303  
 Kolarz, B. N. 1753-1757  
 Komatsu, M. 980-984  
 Kometani, J. M. 617-626  
 Konak, C. 873-880  
 Koning, C. E. 2310-2316  
 Konstantinov, I. I. 1370-1376  
 Kontos, E. G. 1876-1880  
 Koros, W. J. 1363-1369  
 Kozhina, V. 1349-1357  
 Krasnikova, N. P. 1627-1634  
 Kremer, F. 859-862  
 Kressler, J. 957-960  
 Kricheldorf, H. R. 1772-1778  
 Krigbaum, W. R. 813-816  
 Krongauz, V. A. 1959-1964  
 Kube, O. 1635-1639  
 Kuhn, K.-J. 1287-1292  
 Kulichikhin, S. G. 1349-1357  
 Kumar, A. 155-164  
 Kumar, S. 1497-1504  
 Kummerlowe, C. 47-56  
 Kuo, J.-F. 1396-1402  
 Kurita, K. 693-696, 1573-1576  
 Kyu, T. 2130-2133
- 
- Labsky, J. 213-216  
 Ladizesky, N. H. 393-398  
 Lam, T. M. 1030-1036  
 Lander, J. A. 251-256  
 Landes, B. G. 911-917  
 Lang, P. 668-674  
 Laupretre, F. 991-997  
 Le Bourvellec, G. 1712-1716

- Lechner, M. D. 1738–1748  
 Lee, C. H. 553–555  
 Lee, K.-S. 889–896  
 Lee, L. J. 2304–2309  
 Lee, Y.-M. 2304–2309  
 Leenslag, J. W. 1695–1702  
 Lele, S. 1341–1344  
 Lenz, R. W. 567–573, 837–842  
 Leonard, J. 1041–1045  
 Levon, K. 745–750  
 Lifshits, M. I. 454–458  
 Lijten, G. F. C. M. 1149–1155  
 Lim, S. 10–22, 777–787  
 Lindberg, J. J. 745–750  
 Lipatov, Yu. S. 1370–1376  
 Litt, M. H. 2346–2352  
 Liu, T. 1860–1862  
 Liu, Z. 1303–1308  
 Livsey, I. 109–113  
 Llauro-Darricades, M. F. 1277–1281  
 Lodge, T. P. 1377–1384  
 Lokhonya, O. A. 1370–1376  
 Lotz, B. 193–200  
 Lough, A. 680  
 Lovinger, A. J. 617–626  
 Lu, X. 1326–1330, 1505–1511  
 Lundberg, R. C. 1467–1471  
 Lyon, R. E. 1127–1132  
 Lyssy, M. E. 2289–2296
- 
- MacCallum, J. R. 1977–1981  
 Mackley, M. R. 1111–1114, 1115–1120  
 MacKnight, W. J. 1009–1016, 1190–1199, 1667–1673, 1674–1679, 2183–2189  
 Macosko, C. W. 1105–1110  
 Maddams, W. F. 710–712, 2241–2243  
 Madruga, E. L. 315–319  
 Madsen, P. A. 929–940  
 Maeda, H. 1887–1892  
 Magill, J. H. 1243–1252, 1462–1466  
 Mahlmann, G. R. 951–956  
 Mahmoud, A. A. 1423–1425  
 Maj, P. E. P. 1971–1976  
 Majid, M. A. 1217–1220  
 Maklakov, A. I. 1075–1078  
 Malinconico, M. 1185–1189  
 Malkin, A. Ya. 1349–1357  
 Malm, B. 745–750  
 Malook, S. U. 1717–1720  
 Mancarella, C. 1922–1928, 1929–1936  
 Manley, R. St J. 1385–1390  
 Manucarov, Yu. S. 1543–1546  
 Marchal, E. 1937–1944  
 Marchant, R. E. 2032–2039, 2040–2046  
 Margaritis, A. G. 497–502, 2122–2129  
 Mark, J. E. 416–422  
 Markland, P. 1377–1384  
 Marom, G. 2018–2022  
 Marshall, G. L. 1093–1097  
 Marsich, N. 1221–1226  
 Martin, A. C. S. 627–632  
 Martin, P. G. 897–906  
 Martuscelli, E. 47–56, 183–188, 1185–1189, 1190–1199, 1922–1928, 1929–1936  
 Maruyama, Y. 1087–1092  
 Masegosa, R. M. 231–235, 2116–2121  
 Masuda, S. 1945–1949  
 Mathis, A. 1937–1944  
 Mathisen, R. 941–945  
 Matsuda, M. 311–314  
 Matsunaga, S. 2233–2240  
 Matsushita, Y. 1512–1516  
 Maurer, J. J. 2110–2115  
 Mazon Maechederra, J. M. 788–792  
 McCormick, C. L. 2317–2323  
 McCrackin, F. L. 1847–1850  
 McCreedy, K. M. 2063–2067  
 McEwen, I. J. 1569–1572  
 McGill, R. A. 1363–1369  
 McHugh, A. J. 2085–2092
- 
- McIntyre, J. E. 1971–1976  
 McKennon, M. J. 2289–2296  
 Meesen, A. W. 951–956  
 Meier, G. 1640–1644  
 Messiha, N. N. 1423–1425  
 Meurer, B. 721–726, 1937–1944  
 Mewis, J. 97–102  
 Michels, H. J. 244–250  
 Michler, G. 2195–2199  
 Mihailov, M. 217–223  
 Mikolajczak, G. 1841–1846, 2023–2031  
 Mikos, A. G. 998–1004  
 Milburn, G. H. W. 680  
 Miller, J. A. 758–767, 768–776  
 Miller, R. L. 399–407  
 Min, K. E. 1721–1728  
 Mitchell, G. R. 639–647  
 Miura, M. 1787–1790  
 Miyashita, T. 311–314  
 Miyata, S. 1087–1092, 1583–1588  
 Miyata, Y. 2233–2240  
 Mizoguchi, K. 1298–1302  
 Mizuno, A. 1227–1231  
 Moet, A. 1315–1320  
 Moggi, G. 224–230  
 Mogus-Milankovic, A. 33–37  
 Mohsin, M. A. 1569–1572, 1893–1898  
 Moldenaers, P. 97–102  
 Moller, M. 1200–1206  
 Monnerie, L. 727–732, 1547–1552, 1561–1565, 1712–1716, 1876–1880, 1881–1886  
 Monroy Soto, Y. M. 1937–1944  
 Montaudo, G. 139–146, 477–483, 837–842  
 Moore, J. E. 1950–1958  
 Morel, E. 1079–1086  
 Moretti, G. 683–692  
 Morgan, R. J. 340–346  
 Mouline, G. 2275–2281  
 Mulazzi, E. 563–566  
 Muller, R. 1577–1582  
 Munandy, K. 408–415  
 Munoz-Guerra, S. 209–212  
 Murakata, T. 311–314  
 Murphy, R. A. 574–580  
 Murthy, N. S. 2171–2175  
 Mutin, P. H. 1334–1340
- 
- Nagakubo, K. 1787–1790  
 Naito, Y. 1298–1302  
 Nakagawa, H. 1512–1516  
 Nakagawa, K. 263–268  
 Nakahama, S. 303–310, 1005–1008  
 Nalwa, H. S. 543–552  
 Nanasawa, N. 514–518  
 Narasimha, Rao, V. V. R. 648–650  
 Narayan, R. 2176–2178  
 Naruchi, K. 1787–1790  
 Natansohn, A. 885–888  
 Nauman, I. 2195–2199  
 Neamtu, I. 165–169  
 Ng, C. O. 1758–1766  
 Nishio, Y. 1385–1390  
 Nojima, K. 1017–1024  
 Numata, S. 2282–2288
- 
- Oberthur, R. C. 1738–1748  
 Obriot, I. 2093–2098  
 Ogale, K. 587–592  
 Ogata, N. 1017–1024  
 Ogden, R. W. 379–385  
 Ohama, T. 1517–1520  
 Ohnishi, R. 1391–1395  
 Ohshiro, M. 23–32  
 Ohuchi, F. S. 1908–1914  
 Ohyanagi, M. 269–278  
 Okamura, S. 1815–1820  
 Okano, K. 693–696, 1573–1576  
 Oner, M. 279–282  
 Organ, S. J. 697–704  
 Orrah, D. J. 985–990
- 
- Osman, M. A. 713–715  
 Osredkar, U. 1403–1406  
 Ostanevich, Yu. M. 213–216  
 Ota, T. 1945–1949  
 Otero, T. V. 651–658  
 Ottewill, R. H. 109–113  
 Ottino, J. M. 1667–1673, 1674–1679  
 Ougizawa, T. 103–108  
 Ould Kaddour, L. 459–468
- 
- Paakkari, T. 1265–1270  
 Pace, S. J. 2110–2115  
 Paci, M. 831–836  
 Packer, K. J. 1093–1097  
 Pakula, T. 1293–1297  
 Pakull, R. 1772–1778  
 Paolesse, R. 1221–1226  
 Pargada, L. 315–319  
 Parks, D. M. 1680–1694  
 Parsons, W. 1133–1135  
 Pascault, J. P. 1030–1036  
 Paul, D. 1265–1270, 1177–1184, 1703–1711, 1721–1728, 2063–2067, 2145–2150  
 Peacock, A. J. 705–709  
 Pennings, A. J. 923–928, 1695–1702  
 Peppas, N. A. 998–1004, 1851–1859  
 Percec, V. 119–131, 132–138, 1407–1417  
 Perera, M. C. S. 1098–1104  
 Perez, E. 733–738  
 Peters, R. H. 320–324  
 Pethrick, R. A. 1435–1439, 1605–1611  
 Petrus, V. 1207–1211  
 Pham-Van-Cang, C. 1561–1565, 1876–1880  
 Philipp, B. 1265–1270  
 Piaggio, P. 563–566  
 Pianca, M. 224–230  
 Picot, C. 793–797, 798–803  
 Pino, P. 683–692  
 Pivcova, H. 991–997  
 Pizzoli, M. 2077–2080, 2081–2084  
 Planche, J. P. 1277–1281  
 Plestil, J. 213–216, 991–997  
 Poehler, T. A. 574–580  
 Pollicino, A. 139–146  
 Poncipe, C. 1358–1367  
 Popoola, A. V. 320–324  
 Porter, D. 1051–1055, 1056–1061, 1652–1656  
 Porter, P. L. 553–555  
 Porter, R. S. 946–950, 1321–1325, 1517–1520  
 Potember, R. S. 574–580  
 Prakash, R. 441–448  
 Price, G. J. 2105–2109  
 Pritchard, G. 1824–1828  
 Privett, G. J. 1121–1126  
 Pruneda, C. O. 340–346  
 Przybylski, M. 859–862  
 Puglisi, C. 477–483  
 Puiggali, J. 209–212
- 
- Qayyum, M. M. 469–476
- 
- Rafie'ee Fanood, M. H. 2241–2243, 2244–2247  
 Ragosta, G. 1185–1189, 1922–1928, 1929–1936  
 Rajasekharan Pillai, V. N. 1599–1604  
 Ramachandrarao, P. 1341–1344  
 Ramelow, U. 961–968  
 Ranz, W. E. 1105–1110  
 Rashid, H. 1605–1611  
 Rehab, M. M. A. M. 2200–2206  
 Renschler, C. L. 1345–1348  
 Revillon, A. 1277–1281  
 Rex, G. C. 2134–2138  
 Rezaian, I. 1217–1220  
 Riande, E. 2190–2194  
 Richards, R. W. 2252–2256  
 Ridler, P. J. 581–584  
 Rigby, D. 423–434  
 Riofrio, A. 1829–1832

## Author Index

- Roberts, E. A. 3-9  
 Robinson, I. M. 1833-1840  
 Rogers, C. E. 1472-1477  
 Rogovina, L. Z. 1075-1078  
 Rojas, A. J. 1156-1164  
 Ross-Murphy, S. B. 985-990  
 Row, S. 1605-1611  
 Roy, S. K. 1385-1390  
 Russo, M. V. 1221-1226  
 Russo, S. 114-118  
 Rutkowska, M. 885-888
- 
- Sabra, A. 1030-1036  
 Sadler, D. M. 1440-1454  
 Saeki, S. 93-96, 484-488  
 Saito, T. 1589-1592  
 Sajjad, S. M. 2329-2334  
 Sakamoto, N. 288-292  
 Sakurai, M. 1583-1588  
 Sakurai, Y. 1005-1008, 1017-1024  
 Saleem, M. 2057-2062  
 Salem, D. R. 69-85  
 Sanchez-Chaves, M. 1829-1832  
 Saneftuji, T. 716-720  
 Sanetra, R. 1753-1757  
 San Roman, J. 315-319  
 Sanui, K. 1017-1024  
 Sardelis, K. 244-250  
 Sasuga, T. 236-240, 1915-1921  
 Sato, M. 1071-1074  
 Saudek, V. 991-997  
 Scamporrino, E. 477-483  
 Scandola, M. 2077-2080, 2081-2084  
 Scarinzi, G. 1185-1189  
 Schaaf, P. 193-200  
 Schlick, S. 2134-2138  
 Schmidt, P. 217-223, 991-997  
 Schmitt, R. L. 1462-1466  
 Schneider, B. 217-223  
 Schneider, H. A. 119-131, 132-138, 1407-1417  
 Schoch, Jr. K. F. 556-562  
 Schouterden, P. 2099-2104  
 Schroeder, J. A. 929-940  
 Schuijjer, J. 1489-1496  
 Schulz, D. N. 2110-2115  
 Schulz, W. W. 2110-2115  
 Schwimmer, W. H. 2257-2261  
 Scirda, V. D. 1075-1078  
 Sebenik, 1403-1406  
 Sedlak, M. 873-880  
 Sehanobish, K. 1315-1320  
 Sekine, Y. 269-278  
 Semlyen, J. A. 189-192, 985-990, 1561-1565  
 Serimaa, R. 1265-1270  
 Serrano, M. 1667-1673, 1674-1679  
 Serre, B. 881-889  
 Sethi, K. R. 519-524  
 Shaaban, A. F. 1423-1425  
 Shah, K. R. 1212-1216  
 Sham, C. K. 804-812  
 Shen, D. 2335-2345  
 Sherrington, D. C. 325-331, 332-339, 1605-1611  
 Shibata, J. H. 1062-1070  
 Shilov, V. V. 1370-1376  
 Shoji, A. 716-720  
 Sigwalt, P. 2093-2098  
 Sills, S. A. 1971-1976  
 Silvestre, C. 183-188, 1190-1199  
 Simionescu, B. C. 165-169  
 Simionescu, C. I. 165-169  
 Simon, G. 751-754  
 Sivadasan, K. 1426-1428  
 Skiles, G. D. 179-182  
 Slonim, I. 1349-1357  
 Smith, K. 1093-1097  
 Smith, M. K. 633-638  
 Soga, K. 1391-1395  
 Sokol, M. 843-846
- 
- Solbai, S. 1111-1114, 1115-1120  
 Sotton, M. 751-754  
 Speckhard, T. A. 758-767, 768-776  
 Spells, S. J. 697-704  
 Springer, J. 1635-1639  
 Sreekumar, K. 1599-1604  
 Stanford, J. L. 356-367, 368-374  
 St Clair, A. K. 1779-1786  
 Stephanek, P. 873-880  
 Stepto, R. F. T. 423-434  
 Stevens, J. R. 1803-1808  
 Stevenson, T. H. 1093-1097  
 Stieber, F. 1543-1546  
 Still, R. H. 368-374  
 Stockmayer, W. H. 1987-1989  
 Stoks, W. 97-102  
 Storogyk, I. P. 1075-1078  
 Strazielle, Cl. 459-468  
 Struik, L. C. E. 57-68, 1521-1533, 1534-1542, 1869-1875  
 Stupp, S. I. 897-906  
 Subirana, J. A. 209-212  
 Subrahmanyam, H. N. 1331-1333  
 Subramanyam, S. V. 1331-1333  
 Suess, M. 957-960  
 Sun, D. C. 1243-1252  
 Sun, S. F. 283-287  
 Sundelof, L.-O. 2267-2274  
 Sung, C. S. P. 941-945  
 Suto, S. 23-32  
 Svec, F. 1593-1598  
 Szumilewicz, J. 1791-1795
- 
- Tabellout, M. 1435-1439  
 Tadano, K. 1965-1970  
 Taft, R. W. 1363-1369  
 Takagi, Y. 103-108  
 Takeda, M. 1517-1520  
 Takenaka, K. 303-310  
 Takizawa, A. 1809-1814  
 Takoudis, C. G. 998-1004  
 Tanaka, H. 2227-2232  
 Tanaka, K. 1517-1520  
 Tanaka, M. 1945-1949  
 Tanaka, S. 1071-1074  
 Tanaka, Y. 907-910  
 Tant, M. R. 2207-2226  
 Tasaka, S. 1087-1092, 1583-1588  
 Tato, M. 224-230  
 Taylor, M. J. 593-600  
 Taylor, P. L. 2004-2008  
 Tejada, R. 651-658  
 Tejero, R. 1455-1461  
 ten Brinke, G. 923-928  
 Tencer, M. 1553-1560  
 Terlemezyan, L. 217-223  
 Tezuka, Y. 1025-1029  
 Thomas, A. G. 408-415  
 Thomas, E. L. 1667-1673, 1674-1679, 2183-2189, 2252-2256  
 Thomson, J. 543-552  
 Thurow, S. K. 2289-2296  
 Tighe, B. J. 1758-1766  
 Tinker, A. J. 2157-2160, 2161-2165  
 Tissink, N. A. 951-956  
 Toda, A. 1645-1651  
 Tomka, J. G. 1971-1976  
 Tomonaga, F. 1071-1074  
 Tonelli, A. 2227-2232  
 Tonyali, K. 1472-1477  
 Topic, M. 33-37  
 Torell, L. M. 1803-1808  
 Torkelson, J. M. 2257-2261  
 Tory, G. J. 1418-1422  
 Tredgold, R. H. 1619-1626  
 Treloar, L. R. G. 1893-1898  
 Tricoli, M. 831-836  
 Tsonis, C. P. 2139-2144  
 Tsuge, S. 1512-1516  
 Tsujita, Y. 1809-1814
- 
- Tsukruk, V. V. 1370-1376  
 Tsutsui, T. 1227-1231  
 Tubino, R. 563-566  
 Turner, D. T. 293-296, 297-302, 1749-1752  
 Turska, E. 843-846, 847-851  
 Tyagi, O. S. 2329-2334
- 
- Uematsu, I. 716-720  
 Ulanski, J. 449-453, 859-862  
 Ulrich, D. R. 533-542  
 Ungar, G. 1899-1907  
 Urman, Ya. 1349-1357
- 
- Van de Graaf, B. 509-513  
 Vandendriessche, J. 1561-1565, 1876-1880  
 VanderHart, D. L. 733-738  
 Van der Heijden, B. 2099-2104  
 Van Ramesdonk, H. J. 951-956  
 Vardanian, V. I. 755-757  
 Vennemann, N. 1738-1748  
 Verdu, J. 1079-1086  
 Verhoeven, J. W. 951-956  
 Vesely, D. 675-679  
 Vianda, C. A. 574-580  
 Vilgis, Th. 375-378  
 Vincent, C. A. 1977-1981, 2324-2328  
 Viovy, J.-L. 1547-1552  
 Vitalini, D. 477-483, 837-842  
 Vlaic, G. 1566-1568  
 Vogl, O. 514-518, 2179-2182  
 Vos, M. 951-956
- 
- Wachenfeld, E. 817-824  
 Wada, E. 693-696, 1573-1576  
 Waldron, R. F. 1200-1206  
 Walenta, E. 1271-1276  
 Walsh, D. J. 804-812  
 Wandelt, B. 1791-1795  
 Wang, C. H. 1640-1644  
 Ward, I. M. 257-262, 393-398, 2070-2076  
 Wartewig, S. 1543-1546  
 Watanabe, T. 1809-1814  
 Weale, K. E. 2151-2156  
 Wegner, G. 449-453, 859-862, 889-896  
 Wei, M. P. 918-922  
 Weill, G. 721-726  
 Wendorff, J. H. 201-208  
 Wendt, E. 1635-1639  
 Werninck, A. 680  
 Wevers, R. 2310-2316  
 When, R. 1729-1737  
 White, J. R. 469-476  
 Wickert, P. D. 1105-1110  
 Wignall, G. D. 918-922  
 Wilding, M. A. 441-448  
 Wilkes, G. L. 2207-2226  
 Williams, C. 1566-1568  
 Williams, D. J. 1009-1016  
 Williams, J. M. 1950-1958  
 Williams, R. J. J. 1156-1164  
 Willis, H. A. 705-709, 710-712  
 Wilson, M. L. 587-592  
 Winnik, M. A. 1553-1560  
 Winter, C. S. 1619-1626  
 Winter, J. N. 593-600, 601-616  
 Wintersgill, M. C. 633-638  
 Wittmann, J. C. 193-200  
 Wlochowicz, A. 1753-1757  
 Woermann, D. 1729-1737  
 Wong, W. K. 1309-1314  
 Worsfold, D. J. 881-889  
 Wright, N. F. 2004-2008  
 Wright, W. W. 1358-1367  
 Wu, S. 1144-1148  
 Wunderlich, B. 10-22, 777-787, 1165-1176
- 
- Xiao, F. 2335-2345  
 Xu, M. 2183-2189, 2335-2345  
 Xu, Z. 1881-1886

Yadav, D. 519–524  
 Yamada, S. 716–720  
 Yamaguchi, K. 303–310  
 Yamaguchi, T. 93–96, 484–488  
 Yamamoto, A. 303–310  
 Yamamoto, H. 1965–1970  
 Yamamoto, K. 1037–1040  
 Yamamoto, Y. 1965–1970  
 Yamanaka, T. 269–278  
 Yamashita, Y. 1253–1256

Yano, S. 1965–1970  
 Yaraskavitch, I. M. 489–496  
 Yazdani-Ardakani, S. 241–243  
 Yilmaz, L. 2085–2092  
 Yoshida, H. 311–314, 1282–1286  
 Yoshida, K. 236–240  
 Yoshitake, J. 1227–1231  
 Younes, H. 2018–2022  
 Young, R. J. 1833–1840  
 Yui, N. 1017–1024

Zakikhani, M. 1833–1840  
 Zang, Y. H. 1577–1582  
 Zerbi, G. 697–704  
 Zhang, X. 2335–2345  
 Zhao, Q. 2032–2039, 2040–2046  
 Zheng, Y. L. 2297–2303  
 Zrinyi, M. 1139–1143

## Subject Index

### Absorption

Desorption  
 Rubber, 408–415

Epoxy networks  
 Etherification, 1030–1036

### Acetophenone *o*-methyloxime

Polymer-supported reaction  
 Reduction, 1005–1008

### Acrylamide

Surfactant  
 Copolymerization, 2110–2115

### Acylation

Solid-phase catalysts  
 Dialkylaminopyridines, 825–830

### Adhesion

Hysteresis  
 Semicrystalline polymer, 1133–1135

Miscible polymers  
 Kinetics, 2145–2150

Rubber toughening  
 Polystyrene, 1703–1711

### Adsorption

Metal ion uptake  
 Resin, 969–976

### Ageing

Crystallinity  
 Glass transition, 1521–1533  
 Volume relaxation  
 Mechanical properties, 1534–1542

### Alcohol

Cosolvent systems  
 Poly(methyl methacrylate), 1569–1572

### Alkanes

Crystallization  
 Chain folding, 1899–1907

### Aminolysis

Poly(ethylene terephthalate)  
 Characterization, 320–324

### Ammonium methacrylates

Polymerization  
 Micellization, 332–339

### Amorphous polymers

Thermal history  
 Glass transition, 57–68  
 Volume relaxation  
 Secondary transitions, 1869–1875

### Amorphous structure

Chain conformation  
 Domino model, 1293–1297

### Amphiphilic monomer

Micellization  
 Surface activity, 325–331

### Amylose

$\beta$ -keto ester  
 Degree of substitution, 1829–1832

### Anion binding

Poly(sulphopropylbetaines)  
 Spectroscopic analysis, 2297–2303

### Anionic synthesis

Poly(styrene-*g*-ethylene oxide)  
 Characterization, 1217–1220

### Annealing

Polycarbonate  
 Glass transition temperature, 1863–1868

### Azodicarboxylate end groups

Polyisoprenealkylmethacrylate  
 Poly(alkyl methacrylates), 2157–2160

### $\beta$ structure

Random coil conversion  
 Optical activity, 1887–1892

### Binary polymer systems

Crystallization  
 Phase separation, 193–200

### Biodegradation

Poly(ether urethane urea)  
 Mechanical properties, 2040–2046

### Birefringence

Orientation  
 Polycarbonate, 2009–2017  
 Poly(vinyl chloride)  
 Gels, 1334–1340

### Blend

Cellulose  
 Polyacrylonitrile, 1385–1390  
 Drawing  
 Liquid crystals, 263–268  
 Grafting  
 Polyamide, 1185–1189  
 Miscibility  
 Poly(methyl methacrylate), 1190–1199

### Morphology

Mechanical properties, 47–56

### Nylon

Poly(benzobisthiazole), 2130–2133  
 Phase structure

Poly(vinylidene fluoride), 201–208

Poly(styrene phosphonate)

Cellulose acetate, 2052–2056

Poly(vinyl chloride)

Morphology, 2335–2345

Polystyrene

Polyethylene, 2057–2062

X-ray diffraction

Poly(ethylene terephthalate), 2171–2175

### Block copolymers

Monte-Carlo simulation  
 Polyurethane, 758–767, 768–776

Organolithium initiators, 2093–2098

Poly(ether sulphone)

Poly(dimethylsiloxane), 1407–1417

Polystyrene

Butadiene, 244–250

Self-diffusion

Solution properties, 1075–1078

Small-angle X-ray scattering

Styrene-isoprene, 2252–2256

Synthesis

Polypeptide, 147–154

### Blood compatibility

Poly(urethane urea amide)s  
 Characterization, 1017–1024

### Branches

Heat capacity  
 Vibrational spectroscopy, 1165–1176

### Branching

Epoxy resins  
 Kinetics, 817–824  
 Polyacrylamide  
 Limiting viscosity number, 2241–2243

### Brillouin scattering

Poly(propylene glycol)  
 Structural relaxation, 1803–1808

### Brittle-tough transition

Nylon  
 Rubber, 1489–1496

### Bromination

Crystallization  
 Polyethylene, 911–917

### Bulk properties

Poly(sulphopropylbetaines)  
 Dielectric relaxation, 1937–1944

### Butadiene

Polystyrene  
 Block copolymers, 244–250  
 Ziegler–Natta catalyst  
 Polymerization, 1418–1422

### Butene

Polymerization  
 Catalysis, 1227–1231

### Butyl hypophalites

Polymer-supported reactions  
 Crosslinking, 1599–1604

### Calibration procedures

Gel permeation chromatography  
 Polycaprolactam, 114–118

### Calorimetry

Conformation  
 Viscosity, 847–851  
 Gelation  
 Poly(methyl methacrylate), 97–102

### Carbon black

Triboelectrification  
 Suspension polymerization, 1605–1611

### Catalysis

Cellulose triacetate  
 Degradation, 1717–1720  
 Phenol oxidation  
 Copper complexes, 2310–2316  
 Polymerization  
 Butene, 1227–1231  
 Polypropylene, 683–692

### Cation binding

Polyacrylamide  
 Electron spin resonance, 2134–2138

### Cellulose

Derivatization  
 Solvent effect, 2317–2323  
 Polyacrylonitrile  
 Blend, 1385–1390  
 Structure,  
 Wide-angle X-ray diffraction, 1265–1270

## Subject Index

- Cellulose acetate**
  - Poly(styrene phosphonate) Blend, 2052–2056
- Cellulose sulphate system**
  - Phase transition, Differential scanning, 1282–1286
- Cellulose triacetate**
  - Catalysis
  - Degradation, 1717–1720
- Chain branching**
  - Morphology
  - Polyethylene, 710–712
- Chain conformation**
  - Domino model
  - Amorphous structure, 1293–1297
  - Polyoxetane
  - Nuclear magnetic resonance, 733–738
- Chain entanglement**
  - Melt viscosity
  - Polymer blends, 1144–1148
- Chain folding**
  - Crystallization
  - Alkanes, 1899–1907
  - Cycloalkanes
  - Vibrational spectroscopy, 889–896
  - Phase transition
  - Cycloalkanes, 1200–1206
  - Polyethylene
  - Infra-red spectroscopy, 697–704
- Chain model**
  - Thermoelasticity
  - Elastin, 416–422
- Chain structure**
  - Monte-Carlo calculations
  - Perturbation, 423–434
- Characterization**
  - Epoxy network
  - Fluorescence, 941–945
  - Head-to-head polymers
  - Yamamoto polymerization, 514–518
  - Kevlar 49
  - Chemical impurities, 340–346
  - Light scattering
  - Poly(dihalophenylene oxide), 1767–1771
  - Poly(4-methyl-pentene-1)
  - Drawing, 1321–1325
  - Poly(ethylene terephthalate)
  - Aminolysis, 320–324
  - Poly(styrene-*g*-ethylene oxide)
  - Anionic synthesis, 1217–1220
  - Poly(urethane urea amide)s
  - Blood compatibility, 1017–1024
  - Polyimide films
  - Synthesis, 1779–1786
  - Polyquinones
  - Synthesis, 2346–2352
  - Synthesis
  - Polymer electrolytes, 1977–1981
- Chemical impurities**
  - Kevlar 49
  - Characterization, 340–346
- Chromium catalyst**
  - Copolymerization
  - Ethylene/propylene, 1391–1395
- Circular dichroism**
  - Copolyaspartate
  - Helix form, 1809–1814
- Coexistence curve**
  - Small-angle X-ray scattering, 1573–1576
  - Solution
  - Polystyrene, 693–396
- Comb-block copolymers**
  - Irradiation
  - Plasma etch resistance, 881–889
- Comb-branched polymers**
  - $\gamma$ -transition temperature
  - Differential thermal analysis, 788–792
- Compatibility**
  - Inverse gas chromatography
  - Flory-Huggins parameter, 2329–2334
- Complexation**
  - Polycarboxylic acid
  - Poly(methacrylic acid), 519–524
  - Viscometry
  - Methyl cellulose, 288–292
- Complex salts**
  - Dielectric relaxation
  - Ionic clusters, 1965–1970
- Composite particles**
  - Mechanical properties
  - Glassy polymer, 1680–1694
- Composites**
  - Thermoplastic
  - Morphology, 1309–1314
- Composition**
  - Plasticization
  - Glass transition, 2081–2084
  - Poly(vinyl chloride)
  - Glass transition, 2077–2080
- Compressional compliance**
  - Light scattering
  - Viscoelasticity, 1640–1644
- Conducting polymers**
  - Electrical properties
  - Thiophene copolymers, 179–182
  - Electroactive polymer
  - Poly(phenyl acetylene), 587–592
  - Electronic devices
  - Optical devices, 574–580
  - Polyacetylene
  - Polymerization, 1221–1226
  - Proton abstraction
  - Doping, 585–586
  - Sodium-containing polymer
  - Networks, 633–638
- Conductivity**
  - Electron spin resonance
  - Polyimide, 663–667
  - Non-linear optics
  - $\pi$ -electron delocalization, 543–552
  - Poly(itaconic acid)
  - Poly(propylene glycol), 627–632
  - Poly(styrene sulphonate)
  - Polypyrrole, 449–453
  - Polypyrrole
  - Poly(*p*-styrene sulphonate), 859–862
  - Potentiodynamic behaviour, 651–658
- Conformation**
  - Helix
  - Optional activity, 2179–2182
  - Piezoelectricity
  - Vinyl acetate copolymers, 1583–1588
  - Poly(methyl methacrylate)
  - Molecular mechanics, 509–513
  - Polymerization
  - Polybutene, 1037–1040
  - Polypropylene
  - Energy calculations, 2004–2008
  - Solution properties
  - Poly(phenyl methacrylate), 1791–1795
  - Viscosity
  - Calorimetry, 847–851
- Copolyaspartate**
  - Circular dichroism, helix form 1809–1814
- Copolymer blends**
  - Miscibility studies
  - Phase behaviour, 1177–1184
- Copolymer micelles**
  - Poly(methyl methacrylate)
  - Mixing effects, 798–803
  - Polystyrene
  - Temperature effects, 793–797
- Copolymerization**
  - Acrylamide
  - Surfactant, 2110–2115
  - Ethylene/propylene
  - Chromium catalyst, 1391–1395
  - Free volume theory
  - Kinetics, 489–496
  - Organotin polymers
  - Tin analysis, 1423–1425
- Poly(vinyl acetate)**
  - Poly(vinyl sulphonate), 1025–1029
- Polychloroprene**
  - N.m.r. spectroscopy, 2233–2240
- Polysulphone**
  - Reaction conditions, 2139–2144
- Vinyl chloride**
  - Thermal stability, 315–319
- Vinyl copolymers**
  - Group reactivity, 998–1004
- Correlation function**
  - Poly(methacrylic acid)
  - Polyelectrolytes, 213–216
- Cosolvent mixtures**
  - Fluorescence
  - Polystyrene, 231–235
- Cosolvent systems**
  - Alcohol
  - Poly(methyl methacrylate), 1569–1572
- Crack growth**
  - Polyethylene
  - Failure, 1326–1330
  - Thermal history, 1505–1511
- Crack propagation**
  - Fatigue
  - Polyethylene, 1315–1320
- Crazing**
  - Polymer glasses
  - Entanglements, 375–378
  - Stress-strain curves
  - Deformation, 1485–1488
- Critical temperatures**
  - Solution properties
  - Polymer solutions, 93–96
- Crosslink density**
  - Thermosets
  - Epoxies, 929–940
- Crosslinking**
  - Nuclear magnetic resonance
  - Networks, 454–458
  - Polymer-supported reactions
  - Butyl hypophalites, 1599–1604
  - Water sorption
  - Poly(methyl methacrylate), 297–302
- Crystal growth**
  - Kinetics
  - Crystallization, 1440–1454
- Crystallinity**
  - Ageing
  - Glass transition, 1521–1533
  - Poly(vinyl chloride)
  - Neutron scattering, 3–9
  - Radiation effects
  - Polyethylene, 755–757
  - Thermal properties
  - Polyphosphazene, 1243–1252
- Crystallization**
  - Bromination
  - Polyethylene, 911–917
  - Chain folding
  - Alkanes, 1899–1907
  - Crystal growth
  - Kinetics, 1440–1454
  - Kinetics
  - Poly(ethylene terephthalate), 1712–1716
  - Phase separation
  - Binary polymer systems, 193–200
  - Poly(ethylene oxide)
  - Poly(methyl methacrylate), 183–188
  - Poly(ethylene terephthalate)
  - Carbon dioxide, 1298–1302
  - Polypropylene
  - Thermal properties, 1253–1256
  - Rubber
  - Microstructure, 907–910
  - Sol-gel transition
  - Percolation, 980–984
- Crystal structure**
  - Poly(ethylene oxide)

- X-ray diffraction, 1815–1820
- Cycloalkanes**
- Chain folding
  - Vibrational spectroscopy, 889–896
  - Phase transition
  - Chain folding, 1200–1206
- 
- D.s.c.**
- Hydrogels
  - Water binding, 1758–1766
  - Irradiation
  - Poly(phenylene sulphide), 556–562
  - Poly(ether ether ketone)
  - Melting behaviour, 9131
  - Viscometry
  - Poly(dimethyl siloxane), 985–990
- Deformation**
- Polypropylene
  - Temperature effects, 1860–1862
  - Stress-strain curves
  - Crazing, 1485–1488
  - Thermoelasticity
  - Rubbers, 379–385
- Degradation**
- Catalysis
  - Cellulose triacetate, 1717–1720
  - Poly(ether urethane urea)
  - Infra-red spectroscopy, 2032–2039
- Degree of substitution**
- Amylose
  - $\beta$ -keto ester, 1829–1832
- Density profiling**
- Diffusion
  - Rubber, 1345–1348
- Derivatization**
- Cellulose
  - Solvent effect, 2317–2323
- Desorption**
- Absorption
  - Rubber, 408–415
- Dialkylaminopyridines**
- Solid-phase catalysts
  - Acylation, 825–830
- Dielectric dissipation**
- Viscosity
  - Elastic modulus, 1652–1656
- Dielectric loss**
- Viscosity
  - Elasticity, 1051–1055
- Dielectric relaxation**
- Complex salts
  - Ionic clusters, 1965–1970
  - Poly(sulphopropylbetaines)
  - Bulk properties, 1937–1944
  - Thermosets
  - Water sorption, 2289–2296
- Differential thermal analysis**
- Comb-branched polymers
  - $\gamma$ -transition temperature, 788–792
- Diffusion**
- Light scattering
  - Poly(methyl methacrylate), 109–113
  - Poly(methacrylic acid)
  - Dynamic light scattering, 873–880
  - Poly(vinyl methyl ether)
  - Polystyrene, 1377–1384
  - Polyesters
  - Radioisotopes, 1821–1823
  - Rubber
  - Density profiling, 1345–1348
- Diffusion coefficient**
- Gas chromatography
  - Polystyrene, 279–282
- Distribution coefficient**
- Gel permeation chromatography
  - Solution properties, 1455–1461
- Domino model**
- Chain conformation
  - Amorphous structure, 1293–1297
- Doping**
- Infra-red spectroscopy
  - Polyacetylene, 563–566
  - Proton abstraction
  - Conducting polymers, 585–586
  - Synthesis
  - Poly(*p*-phenylene vinylene), 567–573
- Double bond configuration**
- Nuclear magnetic resonance
  - Polynorborene, 1277–1281
- Drawing**
- Blend
  - Liquid crystals, 263–268
  - Poly(4-methyl pentene-1)
  - Solid-state coextrusion, 946–950
  - Characterization, 1321–1325
- Dry-spinning**
- Hot-drawing
  - Poly(L-lactide) fibres, 1695–1702
- Durham precursor route**
- Microstructure
  - Polyacetylene, 601–616
  - Polyacetylene
  - Microstructure, 593–600
- Dyes**
- Molecular stacking
  - Polymer matrix, 1959–1964
- Dynamic light scattering**
- Poly(methacrylic acid)
  - Diffusion, 873–880
  - Rigid rings
  - Hydrodynamic interaction, 1987–1989
- Dynamic mechanical analysis**
- Epoxy resins
  - Viscoelasticity, 2023–2031
  - Fibre-epoxy composite
  - High performance fibres, 1841–1846
  - Nitrocellulose
  - Nitroglycerine, 1121–1126
- Dynamic modulus**
- Wool
  - Processing, 1478–1480, 1481–1484
- 
- Elastic modulus**
- Poly(vinyl acetate)
  - Gels, 1139–1143
  - Viscosity
  - Dielectric dissipation, 1652–1656
- Elasticity**
- Rubber elasticity
  - Elastomer, 1127–1132
  - Viscosity
  - Dielectric loss, 1051–1055
- Elastin**
- Thermoelasticity
  - Chain model, 416–422
- Elastomers**
- Rubber elasticity, 386–392, 1127–1132
  - Networks, 399–407
- Electrical conduction**
- Polymer films
  - Poly(vinyl pyrrolidone), 648–650
- Electrical properties**
- Conducting polymers
  - Thiophene copolymers, 179–182
  - Ultrastructure
  - Morphology, 533–542
- Electroactive polymer**
- Conducting polymers
  - Poly(phenyl acetylene), 587–592
- Electrochemical grafting**
- Poly(methyl thiophene)
  - Platinum, 668–674
- Electron beam irradiation**
- Mechanical relaxation
  - Polysulphone, 236–240
  - Resists
  - Poly(methyl methacrylate), 675–679
- Electron beam resists**
- Langmuir–Blodgett films
  - Poly(styrene/maleic anhydride), 1619–1626
- Electron microscopy**
- Morphology
  - Polybutadiene polyurethanes, 1667–1673
  - Polyurethane
  - Lamellar morphology, 2195–2199
- Electron spin resonance**
- Conductivity
  - Polyimide, 663–667
  - Fibre
  - Mechanical properties, 751–754
  - Polyacrylamide
  - Cation binding, 2134–2138
- Electronic devices**
- Conducting polymers
  - Optical devices, 574–580
- Electro-optic effects**
- Fluorescence
  - Polytetrafluoroethylene, 581–584
- Elimination reaction**
- Thermal conversion
  - Poly(phenylene vinylene), 837–842
- Energy calculations**
- Polypropylene
  - Conformation, 2004–2008
  - Self-diffusion
  - Molecular motion, 86–92
- Energy changes**
- Rubber elasticity
  - Elastomers, 386–392
- Entanglements**
- Irradiation
  - Polyethylene, 393–398
  - Networks
  - Elastomers, 399–407
  - Polymer glasses
  - crazing, 375–378
- Epoxides**
- Imidazoles
  - Kinetics, 1358–1367
- Epoxies**
- Hydrogen bonding
  - Infra-red spectroscopy, 1079–1086
  - Thermosets
  - Crosslink density, 929–940
- Epoxy-amine reaction**
- Inverse gas chromatography
  - Molten state, 2275–2281
- Epoxy network**
- Characterization
  - Fluorescence, 941–945
- Epoxy resin**
- Thermosets
  - Phase separation, 1156–1164
  - Dynamic mechanical analysis
  - Viscoelasticity, 2023–2031
  - Kinetics
  - Branching, 817–824
  - Polycarbonate
  - Structure, 1497–1504
- Etherification**
- Epoxy networks, 1030–1036
- Ethylene/diamine polymers**
- Infra-red spectroscopy
  - Sulphonation, 1467–1471
- Ethylene dimethacrylate**
- Phase-transfer catalysis
  - Glycidyl methacrylate, 1593–1598
- Ethylene/propylene**
- Copolymerization
  - Chromium catalyst, 1391–1395
- Excimer**
- Melt
  - Fluorescence, 1876–1880
  - Pyrene
  - Luminescence study, 1553–1560
- Extension**
- Thermoelasticity
  - Elastomers, 1893–1898

## Subject Index

- Extraction process**  
Morphology  
Polyethylene, 923–928
- 
- FT infra-red spectroscopy**  
Langmuir–Blodgett films  
Polyacrylamide, 311–314
- Failure**  
Crack growth  
Polyethylene, 1326–1330
- Fatigue**  
Crack propagation  
Polyethylene, 1315–1320
- Fibre**  
Electron spin resonance  
Mechanical properties, 751–754  
Poly(phenylene sulphide)  
Mechanical properties, 2070–2076  
Raman spectroscopy  
Mechanical properties, 1833–1840  
Viscoelasticity  
Poly(ethylene terephthalate), 69–85
- Fibre-epoxy composite**  
Dynamic mechanical analysis  
High performance fibres, 1841–1846
- Flory-Huggins parameter**  
Compatibility  
Inverse gas chromatography, 2329–2334
- Fluorescence**  
Characterization  
Epoxy network, 941–945  
Electro-optic effects  
Polytetrafluoroethylene, 581–584  
Excimer  
Melt, 1876–1880  
Mobility probe  
Poly(methyl methacrylate), 951–956  
Poly(dimethylsiloxanes)  
Excimer emission, 1561–1565  
Polystyrene  
Cosolvent mixtures, 231–235
- Fluorescence anisotropy decay**  
Styrene  
Thermal polymerization, 1547–1552
- Fluorescence polarization**  
Networks  
Orientation, 727–732
- Fluorescence quenching**  
Poly(vinyl methyl ether)  
Interpenetration, 2257–2261
- Foam**  
Phase behaviour  
Poly(4-methyl pentene-1), 1950–1958
- Formaldehyde**  
Molecular weight  
Melamine, 155–164
- Fractionation**  
Polyethylene  
Thermal behaviour, 2099–2104  
Poly(isoprene alkylmethacrylate)  
Graft copolymer formation, 2161–2165
- Fracture**  
Mechanical relaxation  
Propellants, 739–744  
Polyethylene  
Stress-cracking, 1472–1477  
Polyurethanes  
Networks, 356–367  
Viscosity  
Molecular interaction, 1056–1061  
Weathering  
Thermoplastic, 469–476
- Free radical production**  
Polyacrylamide  
Ultra-violet radiation, 961–968
- Free volume theory**  
Copolymerization  
Kinetics, 489–496
- Functional monomers**  
Polymerization  
Poly(vinyl phenyl ethanol), 303–310
- 
- $\gamma$ -transition temperature**  
Comb-branched polymers  
Differential thermal analysis, 788–792
- Gas chromatography**  
Polystyrene  
Diffusion coefficient, 279–282  
Thermal degradation  
Styrene/divinylbenzene, 1512–1516
- Gas transport**  
Solubility  
Hydrogen bonding, 1363–1369
- Gel permeation chromatography**  
Distribution coefficient  
Solution properties, 1455–1461  
Molecular weight  
Calibration curve, 1589–1592
- Polycaprolactam**  
Calibration procedures, 114–118
- Gel spinning**  
Polyethylene fibres  
Polyethylene tapes, 1111–1114
- Gelatin**  
Grafting  
Nuclear magnetic resonance, 1403–1406
- Gelation**  
Calorimetry  
Poly(methyl methacrylate), 97–102  
Ultrasonics  
Polyurethane networks, 1435–1439
- Gels**  
Elastic modulus  
Poly(vinyl acetate), 1139–1143  
Poly(vinyl chloride)  
Birefringence, 1334–1340  
Viscoelasticity  
Polyelectrolytes, 1729–1737
- Glass transition**  
Ageing  
Crystallinity, 1521–1533  
Annealing  
Polycarbonate, 1863–1868  
Nuclear magnetic resonance  
Vulcanization, 224–230  
Physical ageing  
Poly(vinyl chloride), 2262–2266  
Plasticization  
Composition, 2081–2084  
Poly(ether sulphone)  
Mechanical properties, 132–138  
Poly(phenylene oxide)  
Membrane, 2085–2092  
Poly(vinyl chloride)  
Composition, 2077–2080  
Polyester networks  
Viscoelasticity, 2190–2194  
Thermal history  
Amorphous polymers, 57–68
- Glassy polymer**  
Mechanical properties  
Composite particles, 1680–1694  
Rubber elasticity  
Transport, 1851–1859
- Glycidyl methacrylate**  
Phase-transfer catalysis  
Ethylene dimethacrylate, 1593–1598
- Graft copolymers**  
Poly(isoprene alkylmethacrylate)  
Fractionation, 2161–2165  
Poly(methyl methacrylate)  
Nucleophilic displacement, 2176–2178
- Grafting**  
Gelatin  
Nuclear magnetic resonance, 1403–1406  
Polyamide  
Blend, 1185–1189  
Rubber-toughening
- Styrene, 2063–2067
- Group reactivity**  
Copolymerization  
Vinyl copolymers, 998–1004
- Growth kinetics**  
Polyethylene  
Single crystals, 1645–1651
- 
- Halato-telechelic polymers**  
Non-ionic crosslinking  
X-ray spectroscopy, 1566–1568
- Head-to-head polymers**  
Yamamoto polymerization  
Characterization, 514–518
- Heat capacity**  
Branches  
Vibrational spectroscopy, 1165–1176  
High melting polymers  
Phenylene groups, 10–22  
Polyester  
Vibrational spectroscopy, 777–787
- Helical structure**  
Polypropylene  
Solid-state n.m.r., 2227–2232
- Helix**  
Conformation  
Optical activity, 2179–2182
- 5-Hexene-2,4-dione**  
Polymerization  
Solvent effects, 1945–1949
- High conversion**  
Polyacrylamide  
Limiting viscosity number, 2344–2247
- High melting polymers**  
Heat capacity  
Phenylene groups, 10–22
- High performance fibres**  
Dynamic mechanical analysis  
Fibre-epoxy composite, 1841–1846  
Swell drawing  
Polyethylene, 1115–1120
- Hot-drawing**  
Dry-spinning  
Poly(L-lactide) fibres, 1695–1702
- Hydrobromination**  
Nuclear magnetic resonance  
Rubber, 1098–1104
- Hydrodynamic interaction**  
Dynamic light scattering  
Rigid rings, 1987–1989
- Hydrodynamic properties**  
Poly(dimethylsiloxanes)  
Theta temperature, 1207–1211
- Hydrogels**  
D.s.c.  
Water binding, 1758–1766  
Mechanical properties  
Thermodynamic properties, 2200–2206  
Polymer blends  
N-vinyl lactam, 1212–1216
- Hydrogen bonding**  
Epoxies  
Infra-red spectroscopy, 1079–1086  
Solubility  
Gas transport, 1363–1369
- Hydroxypropyl cellulose**  
Liquid crystals  
Rheometry, 23–32
- Hysteresis**  
Adhesion  
Semicrystalline polymer, 1133–1135
- 
- Imidazoles**  
Epoxides  
Kinetics, 1358–1367
- Infra-red spectroscopy**  
Doping  
Polyacetylene, 563–566  
Hydrogen bonding  
Epoxies, 1079–1086



- Hydrogen bonding  
Epoxies, 1079–1086
- Paint  
Weathering, 251–256
- Poly(dimethyl siloxane)  
Surface studies, 1462–1466
- Poly(ether urethane urea)  
Degradation, 2032–2039
- Poly(oxymethylene)  
X-ray diffraction, 217–223
- Polyethylene  
Chain folding, 697–704
- Sulphonation  
Ethylene/diamine polymers, 1467–1471
- Initiation**  
Polymerization  
Poly(methyl methacrylate), 1396–1402  
Termination, 2151–2156
- Interpenetration**  
Poly(vinyl methyl ether)  
Fluorescence quenching, 2257–2261
- Intrinsic viscosity**  
Polymer solutions  
Theta solvent, 1847–1850  
Temperature effects  
Polystyrene, 283–287
- Inverse gas chromatography**  
Compatibility  
Flory–Huggins parameter, 2329–2334  
Epoxy–amine reaction  
Molten state, 2275–2281  
Thermodynamics  
Poly(styrene-*co*-difinylbenzene), 1753–1757
- Ionic clusters**  
Dielectric relaxation  
Complex salts, 1965–1970
- Ionomers**  
Mechanical properties  
Polyisobutylene, 2207–2226  
Proton transfer  
Nuclear magnetic resonance, 885–888
- Irradiation**  
Comb-block copolymers  
Plasma etch resistance, 881–889  
Entanglements  
Polyethylene, 393–398  
Mechanical properties  
Aromatic polymers, 1915–1921  
Poly(phenylene sulphide)  
D.s.c., 556–562  
Thermal expansion  
Poly(methyl methacrylate), 1331–1333
- Kauzmann temperature**  
Relaxation  
Thermodynamics, 1341–1344
- $\beta$ -keto ester**  
Amylose  
Degree of substitution, 1829–1832
- Kevlar 49**  
Characterization  
Chemical impurities, 340–346
- Kinetics**  
Copolymerization  
Free volume theory, 489–496  
Crystal growth  
Crystallization, 1440–1454  
Crystallization  
Poly(ethylene terephthalate), 1712–1716  
Epoxides  
Imidazoles, 1358–1367  
Epoxy resins  
Branching, 817–824  
Miscible polymers  
Adhesion, 2145–2150  
Organolithium initiators  
Block copolymer synthesis, 2093–2098  
Phase dissolution  
Rubber, 103–108
- Polysulphone  
Polycondensation, 1349–1357
- Lamellar morphology**  
Electron microscopy  
Polyurethane, 2195–2199
- Langmuir–Blodgett films**  
Electron beam resists  
Poly(styrene/maleic anhydride), 1619–1626  
Polyacrylamide  
FT infra-red spectroscopy, 311–314
- Latex**  
Morphology  
Small-angle neutron scattering, 918–922
- Lattice distortion**  
Polyethylene, 1271–1276
- Light scattering**  
Characterization  
Poly(dihalophenylene oxide), 1767–1771  
Compressional compliance  
Viscoelasticity, 1640–1644  
Diffusion  
Poly(methyl methacrylate), 109–113  
Thermodynamics  
Polymer solutions, 459–468
- Lignosulphonate**  
Thermal stability  
Polyethylene, 745–750
- Limiting viscosity number**  
Polyacrylamide  
Branching, 2241–2243  
High conversion, 2244–2247
- Liquid crystals**  
Blend  
Drawing, 263–268  
Hydroxypropyl cellulose  
Rheometry, 23–32  
Macromolecular flexibility  
Nematic structure, 713–715  
Small-angle X-ray scattering  
Phenyl benzoates, 1370–1376  
Solidification  
Mesophase ageing, 897–906  
Wide-angle X-ray scattering, 639–647
- Luminescence study**  
Pyrene  
Excimer formation, 1553–1560
- Macromolecular flexibility**  
Liquid crystals  
Nematic structure, 713–715
- Mark–Houwink–Sakurada constant**  
Polystyrene  
Viscosity, 977–979
- Mass spectrometry**  
Thermal decomposition  
Polysulphides, 477–483  
Thermal stability  
Pyrolysis, 139–146
- Mechanical properties**  
Ageing  
Volume relaxation, 1534–1542  
Blend  
Morphology, 47–56  
Composite particles  
Glassy polymer, 1680–1694  
Electron spin resonance  
Fibre, 751–754  
Hydrogels  
Thermodynamics, 2200–2206  
Ionomers  
Polyisobutylene, 2207–2226  
Irradiation  
Aromatic polymers, 1915–1921  
Poly(ether sulphone)  
Glass transition, 132–138  
Poly(ether urethane urea)  
Biodegradation, 2040–2046  
Poly(phenylene sulphide)  
Fibre, 2070–2076
- Polyamides  
Polyimidazole, 1787–1790
- Polyester composites  
Nylon composites, 441–448
- Polyolefin blends  
Morphology, 1922–1928
- Raman spectroscopy  
Fibre, 1833–1840
- Mechanical relaxation**  
Fracture  
Propellants, 739–744  
Polysulphone  
Electron beam irradiation, 236–240
- Melamine**  
Molecular weight  
Formaldehyde, 155–164
- Melt**  
Excimer  
Fluorescence, 1876–1880
- Melting behaviour**  
Poly(ether ether ketone)  
D.s.c., 2248–2251
- Melt viscosity**  
Chain entanglement  
Polymer blends, 1144–1148
- Membrane**  
Poly(phenylene oxide)  
Glass transition, 2085–2092
- Mesophase ageing**  
Liquid crystals  
Solidification, 897–906
- Mesophase formation**  
Poly(*n*-hexyl isocyanate)  
Semi-rigid polymers, 813–816
- Metal ion uptake**  
Resin  
Adsorption, 969–976
- Methyl cellulose**  
Viscometry  
Complexation, 288–292
- Methyl styrene**  
Polymerization  
Solvent effect, 1041–1045
- Micellization**  
Polymerization  
Ammonium methacrylates, 332–339  
Surface activity  
Amphiphilic monomer, 325–331
- Microscopy**  
Polyurethanes  
Morphology, 2183–2189
- Microstructure**  
Crystallization  
Rubber, 907–910  
Durham precursor route  
Polyacetylene, 593–600, 601–616  
Nuclear magnetic resonance  
Vinyl acetate copolymer, 1087–1092  
Siloxane copolymer  
Selectively permeable membrane, 269–278
- Miscible polymers**  
Adhesion  
Kinetics, 2145–2150
- Miscibility**  
Blend  
Poly(methyl methacrylate), 1190–1199  
Copolymer blends  
Phase behaviour, 1177–1184  
Poly(methyl methacrylate)  
Poly(styrene acrylonitrile), 957–960  
Poly(vinyl chloride)  
Polyacrylates, 804–812  
Rubber  
Polyethylene, 2122–2129  
Poly(vinyl chloride), 497–502
- Mixed polymer solution**  
Thermodynamics  
Osmotic pressure, 2267–2274

## Subject Index

- Mixing**  
Reaction injection moulding  
Polyurethane, 1105–1110
- Mobility probe**  
Fluorescence  
Poly(methyl methacrylate), 951–956
- Molecular defects**  
Poly(vinylidene fluoride)  
Phase transitions, 617–626
- Molecular interaction**  
Viscosity  
Fracture, 1056–1061
- Molecular mechanics**  
Poly(methyl methacrylate)  
Conformation, 509–513  
Relaxation, 503–508
- Molecular motion**  
Energy calculations  
Self-diffusion, 86–92  
Poly(benzyl glutamate)  
Nuclear magnetic resonance, 716–720  
Spin relaxation  
Polyformal, 1062–1070
- Molecular stacking**  
Dyes  
Polymer matrix, 1959–1964
- Molecular structure**  
Polycarbonate  
Neutron scattering, 1287–1292  
Polyester  
Nuclear magnetic resonance, 1662–1666
- Molecular weight**  
Gel permeation chromatography  
Calibration curve, 1589–1592  
Melamine  
Formaldehyde, 155–164  
Water sorption  
Poly(methyl methacrylate), 293–296
- Molecular weight distribution**  
Viscoelasticity  
Polymer melts, 1577–1582
- Molten state**  
Inverse gas chromatography  
Epoxy–amine reaction, 2275–2281
- Monte-Carlo calculations**  
Chain structure  
Perturbation, 423–434  
Neutron scattering  
Polystyrene, 1990–1996, 1997–2003  
Small-angle neutron scattering  
Polystyrene, 863–872
- Monte-Carlo simulation**  
Polyurethane  
Block copolymers, 758–767, 768–776
- Morphology**  
Blend  
Mechanical properties, 47–56  
Composites  
Thermoplastic, 1309–1314  
Electron microscopy  
Polybutadiene polyurethanes, 1667–1673  
Latex  
Small-angle neutron scattering, 918–922  
Nylon, crystalline structure, 209–212  
Poly(glycolic acid)  
Poly(lactic acid), 2018–2022  
Poly(vinyl chloride)  
Blend, 2335–2345  
Poly(vinylidene fluoride)  
Nuclear magnetic resonance, 721–726  
Poly(ethyl acrylate), 38–46  
Polyethylene  
Chain branching, 710–712  
Extraction process, 923–928  
Melt-crystallization, 705–709  
Polyolefin blends  
Mechanical properties, 1922–1928  
Structure, 1929–1936  
Polyurethanes  
Microscopy, 2183–2189
- Transport**  
Polybutadiene polyurethanes, 1674–1679  
Ultrastructure  
Electrical properties, 533–542
- N.m.r. spectroscopy**  
Polychloroprene  
Copolymerization, 2233–2240
- Nematic structure**  
Liquid crystals  
Macromolecular flexibility, 713–715
- Network formation**  
Photopolymerization  
Thermal analysis, 1149–1155
- Networks**  
Entanglements  
Elastomers, 399–407  
Fluorescence polarization  
Orientation, 727–732  
Nuclear magnetic resonance  
Crosslinking, 454–458  
Polyurethanes  
Fracture, 356–367  
Sodium-containing polymer  
Conducting polymers, 633–638
- Network swelling**  
Polymer–solvent interaction  
Siloxane polymers, 2116–2121
- Neutron scattering**  
Crystallinity  
Poly(vinyl chloride), 3–9  
Monte-Carlo calculations  
Polystyrene, 1990–1996, 1997–2003  
Polycarbonate  
Molecular structure, 1287–1292
- Nitrocellulose**  
Dynamic mechanical analysis  
Nitroglycerine, 1121–1126
- Nitroglycerine**  
Dynamic mechanical analysis  
Nitrocellulose, 1121–1126
- Non-ionic crosslinking**  
Halato-telechelic polymers  
X-ray spectroscopy, 1566–1568
- Non-linear optics**  
Conductivity  
 $\pi$ -electron delocalization, 543–552
- Novolac resin**  
Thermally stimulated discharge  
Nylon, 33–37
- Nuclear magnetic resonance**  
Crosslinking  
Networks, 454–458  
Double-bond configuration  
Polynorborene, 1277–1281  
Glass transition temperature  
Vulcanization, 224–230  
Grafting  
Gelatin, 1403–1406  
Microstructure  
Vinyl acetate copolymer, 1087–1092  
Molecular motion  
Poly(benzyl glutamate), 716–720  
Poly(ethyl arylmethyle)  
Structure, 1824–1828  
Polyester  
Molecular structure, 1662–1666  
Solid state, 1657–1661  
Polyesters  
Paints, 1093–1097  
Polyoxetane  
Chain conformation, 733–738  
Poly(vinylidene fluoride)  
Morphology, 721–726  
Proton transfer  
Ionomers, 885–888  
Rubber  
Hydrobromination, 1098–1104
- Nucleation**  
Polymer blends
- Spherulitic growth, 1627–1634  
Sliding diffusion  
Chain crystals, 1257–1264
- Nucleophilic displacement**  
Poly(methyl methacrylate)  
Graft copolymers, 2176–2178
- Nylon**  
Morphology  
Crystalline structure, 209–212  
Poly(benzobisthiazole)  
Blend, 2130–2133  
Rubber  
Brittle–tough transition, 1489–1496  
Thermally stimulated discharge  
Novolac resin, 33–37
- Nylon composites**  
Mechanical properties  
Polyester composites, 441–448
- Optical activity**  
 $\beta$  structure  
Random coil conversion, 1887–1892  
Conformation  
Helix, 2179–2182
- Optical devices**  
Conducting polymers  
Electronic devices, 574–580
- Optical properties**  
Refractive index  
Palladium poly-yne, 553–555
- Optical waveguiding**  
Refractive index  
Poly(methyl methacrylate), 659–662
- Optoelectronics**  
Polydiacetylene  
Structure, 680
- Organolithium initiators**  
Kinetics  
Block copolymers, 2093–2098
- Organotin polymers**  
Copolymerization  
Tin analysis, 1423–1425
- Orientation**  
Fluorescence polarization  
Networks, 727–732  
Poly(*o*-chlorostyrene)  
Polystyrene, 1881–1886  
Poly(vinyl chloride)  
X-ray diffraction, 1303–1308  
Polycarbonate  
Birefringence, 2009–2017
- Osmotic pressure**  
Thermodynamics  
Mixed polymer solution, 2267–2274
- $\pi$ -electron delocalization**  
Conductivity  
Non-linear optics, 543–552
- Packing**  
Polyimide  
Thermal expansion, 2282–2288
- Paints**  
Infra-red spectroscopy  
Weathering, 251–256  
Nuclear magnetic resonance  
Polyesters, 1093–1097
- Palladium poly-yne**  
Optical properties  
Refractive index, 553–555
- Percolation**  
Sol–gel transition  
Crystallization, 980–984
- Perturbation**  
Monte-Carlo calculations  
Chain structure, 423–434
- Phase behaviour**  
Foam  
Poly(4-methyl pentene-1), 1950–1958  
Miscibility studies  
Copolymer blends, 1177–1184

- Phase dissolution**  
Kinetics  
Rubber, 103–108
- Phase separation**  
Crystallization  
Binary polymer systems, 193–200  
Thermosets  
Epoxy resin, 1156–1164
- Phase structure**  
Blend  
Poly(vinylidene fluoride), 201–208
- Phase transitions**  
Cellulose sulphate system  
Differential scanning, 1282–1286  
Chain folding  
Cycloalkanes, 1200–1206  
Molecular defects  
Poly(vinylidene fluoride), 617–626
- Phase-transfer catalysis**  
Glycidyl methacrylate  
Ethylene dimethacrylate, 1593–1598
- Phenyl benzoates**  
Liquid crystals  
Small-angle X-ray scattering, 1370–1376
- Phenol oxidation**  
Catalysts  
Copper complexes, 2310–2316
- Phenylene groups**  
Heat capacity  
High melting polymers, 10–22
- Photopolymerization**  
Network formation  
Thermal history, 1149–1155
- Physical ageing**  
Glass transition  
Poly(vinyl chloride), 2262–2266
- Piezoelectricity**  
Conformation  
Vinyl acetate copolymers, 1583–1588
- Plasma etch resistance**  
Comb-block copolymers  
Irradiation, 881–889
- Plasticization**  
Composition  
Glass transition, 2081–2084  
Poly(methyl methacrylate)  
Water sorption, 1749–1752
- Platinum**  
Electrochemical grafting  
Poly(methyl thiophene), 668–674
- Poly(acrylonitrile)**  
Wide-angle X-ray scattering  
Swelling, 843–846
- Poly(alkyl methacrylates)**  
Poly(isoprene alkylmethacrylate)  
Azodicarboxylate end groups, 2157–2160
- Poly(aryl ether ether ketone)**  
Sodium salt  
Sulphonation, 1009–1016  
Thermal decomposition  
Poly(aryl ether ketone), 2047–2051
- Poly(aryl ether ketone)**  
Thermal decomposition  
Poly(aryl ether ether ketone), 2047–2051
- Poly(aspartic acid)**  
Poly(glutamic acid)  
X-ray diffraction, 991–997
- Poly(benzobisthiazole)**  
Nylon  
Blend, 2130–2133
- Poly(benzyl glutamate)**  
Molecular motion  
Nuclear magnetic resonance, 716–720
- Poly(3-benzylthiophene)**  
Poly(3-butylthiophene)  
Films, 1071–1074
- Poly(butyl methacrylate)**  
Viscosity  
Solution properties, 165–169
- Poly(3-butylthiophene)**  
Poly(3-benzylthiophene)  
Films, 1071–1074
- Poly(dimethyl siloxane)**  
Block copolymers  
Poly(ether sulphone), 1407–1417  
Fluorescence  
Excimer emission, 1561–1565  
Hydrodynamic properties  
Theta temperature, 1207–1211  
Poly(ether sulphone)  
Thermal behaviour, 119–131  
Solution properties  
UNIFAC, 2105–2109  
Surface studies  
Infra-red spectroscopy, 1462–1466  
Viscometry  
D.s.c., 985–990
- Poly(ester imide)**  
Trimellitic acid  
Synthesis, 1772–1778
- Poly(ether ether ketone)**  
Melting behaviour  
D.s.c., 2248–2251
- Poly(ether sulphone)**  
Block copolymers  
Poly(dimethylsiloxane), 1407–1417  
Mechanical properties  
Glass transition, 132–138  
Thermal behaviour  
Poly(dimethylsiloxane), 119–131
- Poly(ether urethane urea)**  
Biodegradation  
Mechanical properties, 2040–2046  
Degradation  
Infra-red spectroscopy, 2032–2039
- Poly(ethyl arylmethacrylate)**  
Nuclear magnetic resonance  
Structure, 1824–1828
- Poly(ethylene glycol)**  
Polymerization  
Propiolactone, 831–836
- Poly(ethylene oxide)**  
Crystal structure  
X-ray diffraction, 1815–1820  
Crystallization  
Poly(methyl methacrylate), 183–188  
Poly(methyl methacrylate)  
Polymer blends, 1721–1728  
Polymer electrolytes  
Transport properties, 2324–2328
- Poly(ethylene terephthalate)**  
Characterization  
Aminolysis, 320–324  
Crystallization  
Carbon dioxide, 1298–1302  
Kinetics, 1712–1716  
Viscoelasticity  
Fibre, 69–85  
X-ray diffraction  
Blend, 2171–2175
- Poly(glutamic acid)**  
Poly(aspartic acid)  
X-ray diffraction, 991–997
- Poly(glycolic acid)**  
Morphology  
Poly(lactic acid), 2018–2022
- Poly(isoprene alkylmethacrylate)**  
Graft copolymer formation  
Fractionation, 2161–2165  
Poly(alkyl methacrylates)  
Azodicarboxylate end groups, 2157–2160
- Poly(itaconic acid)**  
Conductivity  
Poly(propylene glycol), 627–632
- Poly(lactic acid)**  
Morphology  
Poly(glycolic acid), 2018–2022
- Poly(L-lactide) fibres**  
Dry-spinning  
Hot-drawing, 1695–1702
- Poly(methacrylic acid)**  
Complexation  
Polycarboxylic acid, 519–524  
Dynamic light scattering  
Diffusion, 873–880  
Polyelectrolytes  
Correlation function, 213–216  
Solution properties  
Polyelectrolyte, 1426–1428
- Poly(methyl methacrylate)**  
Blend  
Miscibility, 1190–1199  
Copolymer micelles  
Mixing effects, 798–803  
Cosolvent systems  
Alcohol, 1569–1572  
Crosslinking  
Water sorption, 297–302  
Diffusion, 109–113  
Electron beam irradiation  
Resists, 675–679  
Fluorescence, 951–956  
Graft copolymers  
Nucleophilic displacement, 2176–2178  
Miscibility studies  
Poly(styrene acrylonitrile), 957–960  
Molecular mechanics  
Conformation, 509–513  
Relaxation, 503–508  
Optical waveguiding  
Refractive index, 659–662  
Poly(ethylene oxide)  
Polymer blends, 1721–1728  
Polymerization  
Initiation, 1396–1402  
Thermal expansion  
Irradiation, 1331–1402  
Thermal expansion  
Irradiation 1331–1333  
Water sorption  
Molecular weight, 293–296  
Plasticization, 1749–1752  
Yielding  
Thermoelectric properties, 257–262
- Poly(4-methyl pentene-1)**  
Drawing  
Characterization, 1321–1325  
Foam  
Phase behaviour, 1950–1958  
Solid-state coextrusion  
Drawing, 946–950
- Poly(methyl thiophene)**  
Electrochemical grafting  
Platinum, 668–674
- Poly(n-hexyl isocyanate)**  
Mesophase formation  
Semi-rigid polymers, 813–816
- Poly(o-chlorostyrene)**  
Polystyrene  
Orientation, 1881–1886
- Poly(oxymethylene)**  
Infra-red spectroscopy  
X-ray diffraction, 217–223
- Poly(phenylene oxide)**  
Membrane  
Glass transition, 2085–2092
- Poly(p-phenylene vinylene)**  
Synthesis  
Doping, 567–573  
Thermal conversion  
Elimination reaction, 837–842
- Poly(phenylene sulphide)**  
Fibre  
Mechanical properties, 2070–2076  
Irradiation  
D.s.c., 556–562
- Poly(phenyl methylsiloxane)**  
Small-angle neutron scattering  
Scattering vectors, 189–192
- Poly(propylene glycol)**

## Subject Index

- Brillouin scattering
  - Structural relaxation, 1803–1808
- Conductivity
  - Poly(itaconic acid), 627–632
- Poly(styrene acrylonitrile)**
  - Miscibility studies
    - Poly(methyl methacrylate), 957–960
- Poly(styrene-g-ethylene oxide)**
  - Anionic synthesis
    - Characterization, 1217–1220
- Poly(styrene-maleic anhydride)**
  - Langmuir-Blodgett films
    - Electron beam resists, 1619–1626
- Poly(styrene phosphonate)**
  - Cellulose acetate
    - Blend, 2052–2056
- Poly(styrene sulphonate)**
  - Conductivity
    - Polypyrrole, 449–453
- Poly(sulphopropylbetaines)**
  - Anion binding
    - Spectroscopic analysis, 2297–2303
  - Bulk properties
    - Dielectric relaxation, 1937–1944
- Poly(urethane urea amide)s**
  - Blood compatibility
    - Characterization, 1017–1024
- Poly(vinyl acetate)**
  - Copolymerization
    - Poly(vinyl sulphonate), 1025–1029
  - Elastic modulus
    - Gels, 1139–1143
- Poly(vinyl chloride)**
  - Birefringence
    - Gels, 1334–1340
  - Blend
    - Morphology, 2335–2345
  - Composition
    - Glass transition, 2077–2080
  - Crystallinity
    - Neutron scattering, 3–9
  - Glass transition
    - Physical ageing, 2262–2266
  - Miscibility studies
    - Polyacrylates, 804–812
    - Rubber, 497–502
  - Orientation
    - X-ray diffraction, 1303–1308
- Poly(vinylidene fluoride)**
  - Blend
    - Phase structure, 201–208
  - Molecular defects
    - Phase transitions, 617–626
  - Morphology
    - Nuclear magnetic resonance, 721–726
  - Poly(ethyl acrylate), 38–46
- Poly(vinyl methyl ether)**
  - Diffusion
    - Polystyrene, 1377–1384
  - Interpenetration
    - Fluorescence quenching, 2257–2261
- Poly(vinyl pyrrolidone)**
  - Electrical conduction
    - Polymer films, 648–650
- Polyacetylene**
  - Conduction polymers
    - Polymerization, 1221–1226
  - Doping
    - Infra-red spectroscopy, 563–566
  - Durham precursor route
    - Microstructure, 593–600, 601–616
- Polyacrylamide**
  - Branching
    - Limiting viscosity number, 2241–2243
  - Cation binding
    - Electron spin resonance, 2134–2138
  - Free radical production
    - Ultra-violet radiation, 961–968
  - Langmuir-Blodgett films
    - FT infra-red spectroscopy, 311–314
- Limiting viscosity number
  - High conversion, 2244–2247
- Polyacrylates**
  - Miscibility studies
    - Poly(vinyl chloride), 804–812
- Polyacrylonitrile**
  - Cellulose
    - Blend, 1385–1390
- Polyamides**
  - Grafting
    - Blend, 1185–1189
  - Polyimidazole
    - Mechanical properties, 1787–1790
- Polybutadiene**
  - Ultrasonic absorption
    - Shear viscosity, 1543–1546
- Polybutadiene polyurethanes**
  - Morphology
    - Electron microscopy, 1667–1673
  - Transport
    - Morphology, 1674–1679
- Polybutene**
  - Polymerization
    - Conformation, 1037–1040
- Polycaprolactam**
  - Gel permeation chromatography
    - Calibration procedures, 114–118
- Polycarbonate**
  - Annealing
    - Glass transition temperature, 1863–1868
  - Epoxy resins
    - Structure, 1497–1504
  - Neutron scattering
    - Molecular structure, 1287–1292
  - Orientation
    - Birefringence, 2009–2017
- Polycarboxylic acid**
  - Complexation
    - Poly(methacrylic acid), 519–524
- Polychloroprene**
  - Copolymerization
    - N.m.r. spectroscopy, 2233–2240
- Polycondensation**
  - Kinetics
    - Polysulphone, 1349–1357
- Polydiacetylene**
  - Optoelectronics
    - Structure, 680
- Polyelectrolytes**
  - Poly(methacrylic acid)
    - Correlation function, 213–216
  - Viscoelasticity
    - Gels, 1729–1737
- Polyester**
  - Heat capacity
    - Vibrational spectroscopy, 777–787
  - Molecular structure
    - Nuclear magnetic resonance, 1662–1666
  - Nuclear magnetic resonance
    - Solid state, 1657–1661
- Polyester composites**
  - Mechanical properties
    - Nylon composites, 441–448
- Polyester networks**
  - Glass transition
    - Viscoelasticity, 2190–2194
- Polyesters**
  - Diffusion
    - Radioisotopes, 1821–1823
  - Nuclear magnetic resonance
    - Paints, 1093–1097
- Polyethylene**
  - Blend
    - Polystyrene, 2057–2062
  - Chain folding
    - Infra-red spectroscopy, 697–704
  - Crack growth
    - Failure, 1326–1330
    - Thermal history, 1505–1511
  - Crystallization
- Bromination, 911–917
- Entanglements
  - Irradiation, 393–398
- Fatigue
  - Crack propagation, 1315–1320
- Growth kinetics
  - Single crystals, 1645–1651
- Morphology
  - Chain branching, 710–712
  - Extraction process, 923–928
  - Melt-crystallization, 705–709
- Radiation effects
  - Crystallinity, 755–757
- Rubber
  - Miscibility, 2122–2129
- Stress cracking
  - Fracture, 1472–1477
- Swell drawing
  - High performance fibres, 1115–1120
- Tensile properties
  - X-ray diffraction, 1517–1520
- Thermal behaviour
  - Fractionation, 2099–2104
- Thermal stability
  - Lignosulphonate, 745–750
- Wide-angle X-ray scattering
  - Lattice distortion, 1271–1276
- Polyethylene fibres**
  - Gel spinning
    - Polyethylene tapes, 1111–1114
- Polyethylene tapes**
  - Gel spinning
    - Polyethylene fibres, 1111–1114
- Polyformal**
  - Spin relaxation
    - Molecular motion, 1062–1070
- Polyimidazole**
  - Polyamides
    - Mechanical properties, 1787–1790
- Polyimide**
  - Conductivity
    - Electron spin resonance, 663–667
  - Solution properties
    - Polymer-metal interface, 1908–1914
  - Thermal expansion
    - Packing, 2282–2288
- Polyimide films**
  - Synthesis
    - Characterization, 1779–1786
- Polyisobutylene**
  - Ionomers
    - Mechanical properties, 2207–2226
  - Viscosity
    - Shear, 435–440
- Polymer blends**
  - Chain entanglement
    - Melt viscosity, 1144–1148
  - N-vinyl lactam
    - Hydrogels, 1212–1216
  - Nucleation
    - Spherulitic growth, 1627–1634
  - Poly(methyl methacrylate)
    - Poly(ethylene oxide), 1721–1728
- Polymer electrolytes**
  - Synthesis
    - Characterization, 1977–1981
  - Transport properties
    - Poly(ethylene oxide), 2324–2328
- Polymer films**
  - Electrical conduction
    - Poly(vinyl pyrrolidone), 648–650
- Polymer glasses**
  - Crazing
    - Entanglements, 375–378
- Polymer matrix**
  - Molecular stacking
    - Dyes, 1959–1964
- Polymer-metal interface**
  - Polyimide, 1908–1914
- Polymer solutions**

- Intrinsic viscosity  
   Theta-solvent, 1847–1850  
 Light scattering  
   Thermodynamics, 459–468  
 Solution properties  
   Critical temperatures, 93–96  
**Polymer testing**  
   Viscoelastic polymers  
   Vibration attenuation, 241–243  
**Polymer-solvent interaction**  
   Network swelling  
   Siloxane polymers, 2116–2121  
**Polymer-supported reactions**  
   Acetophenone *o*-methyloxime  
   Reduction, 1005–1008  
   Crosslinking  
   Butyl hypophalites, 1599–1604  
**Polymerization**  
   5-Hexene-2,4-dione  
   Solvent effects, 1945–1949  
   Catalysis  
   Butene, 1227–1231  
   Polypropylene, 683–692  
   Conformation  
   Polybutene, 1037–1040  
   Functional monomers  
   Poly(vinyl phenyl ethanol), 303–310  
   Initiation  
   Poly(methyl methacrylate), 1396–1402  
   Termination, 2151–2156  
   Methyl styrene  
   Solvent effect, 1041–1045  
   Micellization  
   Ammonium methacrylates, 332–339  
   Poly(ethylene glycol)  
   Propiolactone, 831–836  
   Polyacetylene  
   Conducting polymers, 1221–1226  
   Urethane  
   Rheological, 2304–2309  
   Ziegler-Natta catalyst  
   Butadiene, 1418–1422  
**Polyolefin blends**  
   Mechanical properties  
   Morphology, 1922–1928  
   Structure  
   Morphology, 1929–1936  
**Polyols**  
   Polyurethanes  
   Rubber-toughening, 368–374  
**Polyoxetane**  
   Nuclear magnetic resonance  
   Chain conformation, 733–738  
**Polyoxyethylene**  
   Thermodynamics  
   Solution properties, 1738–1748  
**Polypeptide**  
   Block copolymers  
   Synthesis, 147–154  
**Polyphosphazene**  
   Thermal properties  
   Crystallinity, 1243–1252  
**Polypropylene**  
   Conformation  
   Energy calculations, 2004–2008  
   Crystallization  
   Thermal properties, 1253–1256  
   Deformation  
   Temperature effects, 1860–1862  
   Polymerization  
   Catalysis, 683–692  
   Solid-state n.m.r.  
   Helical structure, 2227–2232  
**Polypyrrole**  
   Conductivity  
   Poly(*p*-styrene sulphonate), 859–862  
   Poly(styrene sulphonate), 449–453  
   Potentiodynamic behaviour  
   Conductivity, 651–658  
**Polyquinones**
- Synthesis  
   Characterization, 2346–2352  
**Polystyrene**  
   Blend  
   Polyethylene, 2057–2062  
   Butadiene  
   Block copolymers, 244–250  
   Copolymer micelles  
   Temperature effects, 793–797  
   Fluorescence  
   Cosolvent mixtures, 231–235  
   Gas chromatography  
   Diffusion coefficient, 279–282  
   Mark-Houwink-Sakurada constant  
   Viscosity, 977–979  
   Monte-Carlo calculations  
   Neutron scattering, 1990–1996, 1997–2003  
   Poly(*o*-chlorostyrene)  
   Orientation, 1881–1886  
   Poly(vinyl methyl ether)  
   Diffusion, 1377–1384  
   Rubber-toughening  
   Adhesion, 1703–1711  
   Small-angle X-ray scattering  
   Coexistence curve, 1573–1576  
   Small-angle neutron scattering  
   Monte-Carlo calculations, 863–872  
   Solution  
   Coexistence curve, 693–696  
   Temperature effects  
   Intrinsic viscosity, 283–287  
   X-ray diffraction  
   Screening length, 1635–1639  
**Polysulphides**  
   Thermal decomposition  
   Mass spectrometry, 477–483  
**Polysulphone**  
   Copolymerization  
   Reaction conditions, 2139–2144  
   Kinetics  
   Polycondensation, 1349–1357  
   Mechanical relaxation  
   Electron beam irradiation, 236–240  
**Polytetrafluoroethylene**  
   Electro-optic effects  
   Fluorescence, 581–584  
**Polyurethane networks**  
   Ultrasonics  
   Gelation, 1435–1439  
**Polyurethanes**  
   Electron microscopy  
   Lamellar morphology, 2195–2199  
   Monte-Carlo simulation  
   Block copolymers, 758–767, 768–776  
   Morphology  
   Microscopy, 2183–2189  
   Networks  
   Fracture, 356–367  
   Reaction injection moulding  
   Mixing, 1105–1110  
   Rubber-toughening  
   Polyols, 368–374  
**Potentiodynamic behaviour**  
   Polypyrrole  
   Conductivity, 651–658  
**Processing**  
   Wool  
   Dynamic modulus, 1478–1480, 1481–1484  
**Propellants**  
   Fracture  
   Mechanical relaxation, 739–744  
**Propiolactone**  
   Poly(ethylene glycol)  
   Polymerization, 831–836  
**Proton abstraction**  
   Doping  
   Conducting polymers, 585–586  
**Proton transfer**
- Ionomers  
   Nuclear magnetic resonance, 885–888  
**Pyrene**  
   Excimer formation  
   Luminescence study, 1553–1560
- 
- Radiation effects**  
   Crystallinity  
   Polyethylene, 755–757  
   Radioisotopes  
   Polyesters, 1821–1823  
**Raman spectroscopy**  
   Fibre  
   Mechanical properties, 1833–1840  
**Random coil conversion**  
    $\beta$  structure  
   Optical activity, 1887–1892  
**Reaction conditions**  
   Copolymerization  
   Polysulphone, 2139–2144  
**Reaction injection moulding**  
   Mixing  
   Polyurethane, 1105–1110  
**Reduction**  
   Acetophenone *o*-methyloxime  
   Polymer-supported reaction, 1005–1008  
**Refractive index**  
   Optical properties  
   Palladium poly-yne, 553–555  
   Optical waveguiding  
   Poly(methyl methacrylate), 659–662  
**Relaxation**  
   Kauzmann temperature  
   Thermodynamics, 1341–1344  
   Molecular mechanics  
   Poly(methyl methacrylate), 503–508  
**Resin**  
   Metal ion uptake  
   Adsorption, 969–976  
**Resists**  
   Electron beam irradiation  
   Poly(methyl methacrylate), 675–679  
**Rheological**  
   Urethane, 2304–2309  
**Rheometry**  
   Liquid crystals  
   Hydroxypropyl cellulose, 23–32  
**Rigid rings**  
   Dynamic light scattering  
   Hydrodynamic interaction, 1987–1989  
**Rubber**  
   Absorption  
   Desorption, 408–415  
   Crystallization  
   Microstructure, 907–910  
   Diffusion  
   Density profiling, 1345–1348  
   Kinetics  
   Phase dissolution, 103–108  
   Miscibility  
   Polyethylene, 2122–2129  
   Miscibility studies  
   Poly(vinyl chloride), 497–502  
   Nuclear magnetic resonance  
   Hydrobromination, 1098–1104  
   Nylon  
   Brittle-tough transition, 1489–1496  
   Thermoelasticity, 379–385  
**Rubber elasticity**  
   Elasticity  
   Elastomers, 1127–1132  
   Energy changes  
   Elastomers, 386–392  
   Glassy polymer  
   Transport, 1851–1859  
**Rubber toughening**  
   Grafting  
   Styrene, 2063–2067  
   Polystyrene  
   Adhesion, 1703–1711

## Subject Index

- Polyurethanes  
Polyols, 368–374
- 
- Scattering vectors**  
Poly(phenyl methylsiloxane)  
Small-angle neutron scattering, 189–192
- Secondary transitions**  
Volume relaxation  
Amorphous polymers, 1869–1875
- Self-diffusion**  
Block copolymers  
Solution properties, 1075–1078  
Energy calculations  
Molecular motion, 86–92
- Semi-rigid polymers**  
Mesophase formation  
Poly(n-hexyl isocyanate), 813–816
- Semicrystalline polymer**  
Hysteresis  
Adhesion, 1133–1135
- Shear**  
Viscosity  
Polyisobutylene, 435–440
- Shear viscosity**  
Ultrasonic absorption  
Polybutadiene, 1543–1546
- Siloxane polymers**  
Polymer–solvent interaction  
Network swelling, 2116–2121
- Single crystals**  
Growth kinetics  
Polyethylene, 1645–1651
- Sliding diffusion**  
Nucleation  
Chain crystals, 1257–1264
- Small-angle neutron scattering**  
Monte-Carlo calculations  
Polystyrene, 863–872  
Morphology  
Latex, 918–922  
Poly(phenylmethylsiloxane)  
Scattering vectors, 189–192
- Small-angle X-ray scattering**  
Block copolymers  
Styrene–isoprene, 2252–2256  
Liquid crystals  
Phenyl benzoates, 1370–1376  
Polystyrene  
Coexistence curve, 1573–1576
- Sodium salt**  
Poly(aryl ether ether ketone)  
Sulphonation, 1009–1016
- Sodium-containing polymer**  
Networks  
Conducting polymers, 633–638
- Sol-gel transition**  
Crystallization  
Percolation, 980–984
- Solidification**  
Liquid crystals  
Mesophase ageing, 897–906
- Solid-phase catalysts**  
Acylation  
Dialkylaminopyridines, 825–830
- Solid-state coextrusion**  
Poly(4-methyl pentene-1)  
Drawing, 946–950
- Solid-state n.m.r.**  
Polypropylene  
Helical structure, 2227–2232
- Solubility**  
Gas transport  
Hydrogen bonding, 1363–1369
- Solution**  
Polystyrene  
Coexistence curve, 693–696
- Solution properties**  
Conformation  
Poly(phenyl methacrylate) 1791–1795
- Critical temperatures  
Polymer solutions, 93–96
- Gel permeation chromatography  
Distribution coefficient, 1455–1461
- Poly(dimethylsiloxane)  
UNIFAC, 2105–2109
- Poly(methacrylic acid)  
Polyelectrolyte, 1426–1428
- Polyimide  
Polymer–metal interface, 1908–1914
- Self-diffusion  
Block copolymers, 1075–1078
- Thermodynamics  
Polyoxyethylene, 1738–1748
- Viscosity  
Poly(butyl methacrylate), 165–169
- Solvent effects**  
Cellulose  
Derivatization, 2317–2323  
Polymerization  
5-Hexene-2,4-dione, 1945–1949  
Methyl styrene, 1041–1045
- Spectroscopic analysis**  
Poly(sulphopropylbetaines)  
Anion binding, 2297–2303
- Spin relaxation**  
Polyformal  
Molecular motion, 1062–1070
- Spherulitic growth**  
Polymer blends  
Nucleation, 1627–1634
- Stress-cracking**  
Polyethylene  
Fracture, 1472–1477
- Stress-strain curves**  
Deformation  
Crazing, 1485–1488
- Structural relaxation**  
Brillouin scattering  
Poly(propylene glycol), 1803–1808
- Structure**  
Cellulose  
Wide-angle X-ray diffraction, 1265–1270  
Epoxy resins  
Polycarbonate, 1497–1504  
Poly(ethylarylmethylene)  
Nuclear magnetic resonance, 1824–1828  
Polydiacetylene  
Optoelectronics, 680  
Polyolefin blends  
Morphology, 1929–1936  
Wide-angle X-ray scattering  
Liquid crystals, 639–647
- Styrene**  
Fluorescence anisotropy decay  
Thermal polymerization, 1547–1552  
Rubber toughening  
Grafting, 2063–2067
- Styrene/divinylbenzene**  
Thermal degradation  
Gas chromatography, 1512–1516
- Sulphonation**  
Infra-red spectroscopy  
Ethylene/diamine polymers, 1467–1471  
Sodium salt  
Poly(aryl ether ether ketone), 1009–1016
- Surface activity**  
Micellization  
Amphiphilic monomer, 325–331
- Surface studies**  
Poly(dimethylsiloxane)  
Infra-red spectroscopy, 1462–1466
- Surfactant**  
Acrylamide  
Copolymerization, 2110–2115
- Suspension polymerization**  
Carbon black  
Triboelectrification, 1605–1611
- Swell drawing**  
Polyethylene
- High performance fibres, 1115–1120
- Swelling**  
Poly(acrylonitrile)  
Wide-angle X-ray scattering, 843–846
- Synthesis**  
Block copolymers  
Polypeptide, 147–154  
Characterization  
Polymer electrolytes, 1977–1981  
Doping  
Poly(p-phenylene vinylene), 567–573  
Poly(ester imide)  
Trimellitic acid, 1772–1778  
Polyimide films  
Characterization, 1779–1786  
Polyquinones  
Characterization, 2346–2352  
Thermotropic polyesters  
Transition temperatures, 1971–1976
- 
- Temperature effects**  
Copolymer micelles  
Polystyrene, 793–797  
Polypropylene  
Deformation, 1860–1862  
Polystyrene  
Intrinsic viscosity, 283–287
- Tensile properties**  
Polyethylene  
X-ray diffraction, 1517–1520
- Termination**  
Polymerization  
Initiation, 2151–2156
- Thermal behaviour**  
Poly(ether sulphone)  
Poly(dimethylsiloxane), 119–131  
Polyethylene  
Fractionation, 2099–2104
- Thermal conversion**  
Elimination reaction  
Poly(phenylene vinylene), 837–842
- Thermal decomposition**  
Poly(aryl ether ketone)  
Poly(aryl ether ether ketone), 2047–2051  
Polysulphides  
Mass spectrometry, 477–483
- Thermal degradation**  
Styrene/divinylbenzene  
Gas chromatography, 1512–1516
- Thermal expansion**  
Poly(methyl methacrylate)  
Irradiation, 1331–1333  
Polyimide  
Packing, 2282–2288
- Thermal history**  
Glass transition  
Amorphous polymers, 57–68  
Photopolymerization  
Network formation, 1149–1155  
Polyethylene  
Crack growth, 1505–1511
- Thermal polymerization**  
Styrene  
Fluorescence anisotropy decay, 1547–1552
- Thermal properties**  
Crystallization  
Polypropylene, 1253–1256  
Polyphosphazene  
Crystallinity, 1243–1252
- Thermal stability**  
Copolymerization  
Vinyl chloride, 315–319  
Mass spectrometry  
Pyrolysis, 139–146  
Polyethylene  
Lignosulphonate, 745–750
- Thermally stimulated discharge**  
Novolac resin  
Nylon, 33–37

**Thermodynamics**

- Hydrogels, 2200–2206
- Inverse gas chromatography
  - Poly(styrene-co-divinylbenzene), 1753–1757
- Kauzmann temperature
  - Relaxation, 1341–1344
- Light scattering
  - Polymer solutions, 459–468
- Mixed polymer solution
  - Osmotic pressure, 2267–2274
- Polyoxyethylene
  - Solution properties, 1738–1748
- Van der Waals model
  - Tonks model, 484–488

**Thermoelastic properties**

- Poly(methyl methacrylate)
  - Yielding, 257–262

**Thermoelasticity**

- Deformation
  - Rubber, 379–385
- Elastin
  - Chain model, 416–422
- Extension
  - Elastomers, 1893–1898

**Thermoplastic**

- Composites
  - Morphology, 1309–1314
- Fracture, 469–476

**Thermosets**

- Dielectric relaxation
  - Water sorption, 2289–2296
- Epoxies
  - Crosslink density, 929–940
- Phase separation
  - Epoxy resin, 1156–1164

**Thermotropic polyesters**

- Synthesis
  - Transition temperatures, 1971–1976

**Theta temperature**

- Hydrodynamic properties
  - Poly(dimethyl siloxanes), 1207–1211

**Theta-solvent**

- Polymer solutions
  - Intrinsic viscosity, 1847–1850

**Thiophene copolymers**

- Conducting polymers
  - Electrical properties, 179–182

**Tin analysis**

- Organotin polymers
  - Copolymerization, 1423–1425

**Tonks model**

- Van der Waals model
  - Thermodynamics, 484–488

**Transition temperatures**

- Thermotropic polyesters
  - Synthesis, 1971–1976

**Transport**

- Morphology
  - Polybutadiene polyurethanes, 1674–1679
- Rubber elasticity
  - Glassy polymer, 1851–1859

**Transport properties**

- Polymer electrolytes
  - Poly(ethylene oxide), 2324–2328

**Triboelectrification**

- Carbon black
  - Suspension polymerization, 1605–1611

**Trimelitic acid**

- Poly(ester imide)
  - Synthesis, 1772–1778

**UNIFAC**

- Poly(dimethylsiloxane)
  - Solution properties, 2105–2109

**Ultrasonic absorption**

- Polybutadiene
  - Shear viscosity, 1543–1546

**Ultrasonics**

- Polyurethane networks
  - Gelation, 1435–1439

**Ultrastructure**

- Electrical properties
  - Morphology, 533–542

**Ultra-violet radiation**

- Polyacrylamide
  - Free radical production, 961–968

**Urethane**

- Polymerization
  - Rheological, 2304–2309

**Van der Waals model**

- Tonks model
  - Thermodynamics, 484–488

**Vibration attenuation**

- Viscoelastic polymers
  - Polymer testing, 241–243

**Vibrational spectroscopy**

- Chain folding
  - Cycloalkanes, 889–896
- Heat capacity
  - Branches, 1165–1176
  - Polyester, 777–787

**Vinyl acetate copolymers**

- Conformation
  - Piezoelectricity, 1583–1588
- Microstructure
  - Nuclear magnetic resonance, 1087–1092

**Vinyl chloride**

- Copolymerization
  - Thermal stability, 315–319

**Vinyl copolymers**

- Copolymerization
  - Group reactivity, 998–1004

**N-vinyl lactam**

- Polymer blends
  - Hydrogels, 1212–1216

**Viscoelastic polymers**

- Vibration attenuation
  - Polymer testing, 241–243

**Viscoelasticity**

- Epoxy resins
  - Dynamic mechanical analysis, 2023–2031
- Glass transition
  - Polyester networks, 2190–2194
- Light scattering
  - Compressional compliance, 1640–1644
- Molecular weight distribution
  - Polymer melts, 1577–1582
- Poly(ethylene terephthalate)
  - Fibre, 69–85
- Polyelectrolytes
  - Gels, 1729–1737

**Viscometry**

- D.s.c.
  - Poly(dimethyl siloxane), 985–990
- Methyl cellulose
  - Complexation, 288–292

**Viscosity**

- Conformation
  - Calorimetry, 847–851
- Dielectric dissipation
  - Elastic modulus, 1652–1656

**Dielectric loss**

- Elasticity, 1051–1055
- Mark-Houwink-Sakurada constant
  - Polystyrene, 977–979
- Molecular interaction
  - Fracture, 1056–1061
- Poly(butyl methacrylate)
  - Solution properties, 165–169
- Shear
  - Polyisobutylene, 435–440
- Volume relaxation**
  - Ageing
    - Mechanical properties, 1534–1542
  - Secondary transitions
    - Amorphous polymers, 1869–1875

**Water binding**

- D.s.c.
  - Hydrogels, 1758–1766

**Water sorption**

- Crosslinking
  - Poly(methyl methacrylate), 297–302
- Poly(methyl methacrylate)
  - Molecular weight, 293–296
  - Plasticization, 1749–1752
- Thermosets
  - Dielectric relaxation, 2289–2296

**Weathering**

- Fracture
  - Thermoplastic, 469–476
- Infra-red spectroscopy
  - Paint, 251–256
- Wide-angle X-ray scattering**
  - Poly(acrylonitrile)
    - Swelling, 843–846
  - Polyethylene
    - Lattice distortion, 1271–1276
- Structure
  - Liquid crystals, 639–647

**Wool**

- Dynamic modulus
  - Processing, 1478–1480, 1481–1484

**X-ray diffraction**

- Infra-red spectroscopy
  - Poly(oxymethylene), 217–223
- Poly(ethylene oxide)
  - Crystal structure, 1815–1820
- Poly(ethylene terephthalate)
  - Blend, 2171–2175
- Poly(glutamic acid)
  - Poly(aspartic acid), 991–997
- Poly(vinyl chloride)
  - Orientation, 1303–1308
- Polyethylene
  - Tensile properties, 1517–1520
- Polystyrene
  - Screening length, 1635–1639

**Yamamoto polymerization**

- Head-to-head polymers
  - Characterization, 514–518

**Yielding**

- Poly(methyl methacrylate)
  - Thermoelastic properties, 257–262

**Ziegler-Natta catalyst**

- Butadiene
  - Polymerization, 1418–1422