

R. B. Woodward

Bibliography

Precipitation of barium in the copper-tin group of qualitative analysis. W.J.Hall and RBW, Ind. Eng. Chem., Anal. Ed., 6, 478 (1934).

A new pressure regulator for vacuum distillation. R.L.Emerson and RBW, Ibid., 9, 347 (1937).

The Staling of coffee. II. S.C.Prescott, R.L.Emerson, RBW, and R. Heggie, Food Research, 2, 165 (1937).

Pyrolysis of organomagnesium compounds. I. A new agent for the reduction of benzophenone. D.B.Clapp, and RBW, J. Am. Chem. Soc., 60, 1019 (1938).

The direct introduction of the angular methyl group. RBW, Ibid., 62, 1208 (1940).

Experiments on the synthesis of oestrone. I. 2-( $\beta$ -phenylethyl)-furans as components in the diene synthesis. RBW, Ibid., 62, 1478 (1940).

2, 4-Dibromo- $\alpha$ -oestradiol. RBW, Ibid., 62, 1625 (1940).

The formation of Reissert's compounds in non-aqueous media. RBW, Ibid., 62, 1626 (1940).

A new optically active reagent for carbonyl compounds. The resolution of dl-camphor. RBW, T. P. Kohman, and G. C. Harris, Ibid., 63, 120 (1941).

The isolation and properties of 1,1-dineopentylethylene, a component of triisobutylene. P.D.Bartlett, G.L.Fraser, and RBW, Ibid., 63, 495 (1941).

Structure and absorption spectra of  $\alpha, \beta$ -unsaturated ketones. RBW, Ibid., 63, 1123 (1941).

Structure and absorption spectra. II. 3-Acetoxy- $\Delta^5$ -(6)-norcholestene-7-carboxylic acid. RBW, and A.F.Clifford, Ibid., 63, 2727 (1941).

The structure of cantharidine and the synthesis of desoxycantharidine. RBW, and R.B. Loftfield, Ibid., 63, 3167 (1941).

$t$ -Butyllithium. P.D.Bartlett, C.G.Swain, and RBW, Ibid., 63, 3229 (1941).

Structure and absorption spectra. III. Normal conjugated dienes. RBW, Ibid., 64, 72 (1942).

Structure and absorption spectra. IV. Further observations on  $\alpha, \beta$ -unsaturated ketones. RBW, Ibid., 64, 76 (1942).

The mechanism of the Diels-Alder reaction. RBW, Ibid., 64, 3058 (1942).

The condensation of acyloins with ethyl acetate. RBW, and E.R.Blout, J. Am. Chem. Soc., 64, 562 (1943).

The condensation of ethyl  $\alpha$ -acetylpropionate with ethyl chlorofumarate. RBW, and W. A. Reed, Ibid., 65, 1569 (1943).

Studies on diene-addition reactions. II. The reaction of 6,6-pentamethylenefulvene with maleic anhydride. RBW, and H. Baer, Ibid., 66, 645 (1944).

The dimerization of 6-methoxy-3,4-dihydronaphthalene. RBW, and R. H. Eastman, Ibid., 66, 674 (1944).

Thiophane derivatives. RBW, and R. H. Eastman, Ibid., 66, 849 (1944).

The total synthesis of quinine. RBW, and W. E. Doering, Ibid., 66, 849 (1944).

The total synthesis of quinine. RBW, and W. E. Doering, Ibid., 67, 860 (1945).

Quininone. RBW, N. L. Wendler, and F.H.Brutschy, Ibid., 67, 1425 (1945).

m-Hydroxybenzaldehyde. RBW, Org. Syn., 25, 55 (1945).

Tetrahydrothiophane ("thiophane") derivatives. RBW, and R. H. Eastman, J. Am. Chem. Soc., 68, 2229 (1946).

Synthesis of protein analogs. RBW, and C.H.Schramm, Ibid., 69, 1551 (1947).

The structure of strychnine. RBW, W. J. Brehm, and A. L. Nelson, Ibid., 69, 2250 (1947).

The reaction of furan with maleic anhydride. RBW, and H. Baer, Ibid., 70, 1161 (1948).

The structure of strychnine. Formulation of the neo bases. RBW, and W.J.Brehm, Ibid., 70, 2107 (1948).

The structure of ketoyobyrine. RBW, and B. Witkop, Ibid., 70, 2409 (1948).

The action of alkali on chloral-quinaldine. RBW, and E.C.Kornfeld, Ibid., 70, 2508 (1948).

Biogenesis of the strychnos alkaloids. RBW, Nature, 162, 155 (1948).

The structure of santonic acid. RBW, F.J.Brutschy, and H.Baer, J. Am. Chem. Soc., 70, 4216 (1948).

The structure of sempervirine. RBW, and B. Witkop, Ibid., 71, 379 (1949).

The synthesis of sempervirine methochloride. RBW, and W.M.McLamore, Ibid., 71, 379 (1949).

The structure of patulin. RBW, and Gurbakhsh Singh, J. Am. Chem. Soc., 71, 758 (1949).

Ethyl 2-pyridylacetate. RBW, and E. C. Kornfeld, Org. Syn., 29, 44 (1949).

Physical methods in the study of penicillin. RBW, A. Newberger, and N. R. Trenner, Chapter XIV in Chemistry of Penicillin, Princeton University Press, 1949.

The constitution of penicillins. J.R. Johnson, RBW, and R. Robinson, Chapter XV in Chemistry of Penicillin, Princeton University Press, 1949.

The autoxidation of menthofuran. RBW, and R.H. Eastman, J. Am. Chem. Soc., 72, 399 (1950).

Synthesis and rearrangement of cyclohexadienones. RBW, and Tara Singh, Ibid., 72, 494 (1950).

The structure of the santonides. RBW, and E.C. Kovach, Ibid., 72, 1009 (1950).

The synthesis of ring systems related to morphine. IV. N-Methylisomorphinane. M. Gates, RBW, and W.F. Newhall, and R. Kunzli, Ibid., 72, 1141 (1950).

The structure of the acidic dimer of methylketene. RBW, and G. Small, Jr., Ibid., 72, 1297 (1950).

The synthesis of patulin. RBW, and Gurbakhsh Singh, Ibid., 72, 1428 (1950).

The structure of patulin. RBW, and Gurbakhsh Singh, Experientia, 6, 238 (1950).

Allopatulin. RBW, and Gurbakhsh Singh, J. Am. Chem. Soc., 72, 5351 (1950).

The structure of chlorodesoxypatulinic acid. RBW, and G. Singh, Nature, 165, 928 (1950).

The total synthesis of a steroid. RBW, F. Sondheimer, D. Taub, K. Heusler, and W. M. McLamore, J. Am. Chem. Soc., 73, 2403 (1951).

The total synthesis of some naturally occurring steroids. RBW, F. Sondheimer, and D. Taub, Ibid., 73, 3547 (1951).

The total synthesis of cholesterol. RBW, F. Sondheimer, D. Taub, Ibid., 73, 3548 (1951).

The total synthesis of cortisone. RBW, F. Sondheimer, and D. Taub, Ibid., 73, 4057 (1951).

The structure of iron bis-cyclopentadienyl. G. Wilkinson, M. Rosenblum, M. C. Whiting, and RBW, Ibid., 74, 2125 (1952).

A new aromatic system. RBW, M. Rosenblum, and M. C. Whiting, J. Am. Chem. Soc., 74, 3458 (1952).

Terramycin. V. Structure of terrinolide. An acid degradation product of terramycin. F.A.Hochstein, P.P.Regna, K.J.Brunings, and RBW, Ibid., 74, 3706 (1952).

Terramycin. VI. The structure of  $\alpha$ - and  $\beta$ -apoterramycin, acid rearrangement products of terramycin. F.A.Hochstein, C.R.Stephens, P.N.Gordon, P.P.Regna, F.J.Pilgrim, K.J.Brunings, and RBW, Ibid., 74, 3707 (1952).

Terramycin. VII. The structure of terramycin. F.A.Hochstein, C.R.Stephens, L.H.Conover, P.P.Regna, R.Pasternack, K.J.Brunings, and RBW, Ibid., 74, 3708 (1952).

The total synthesis of steroids. RBW, F. Sondheimer, D. Taub, K. Heusler, and W. M. McLamore, Ibid., 74, 4223 (1952).

Terramycin. VIII. Structure of aureomycin and terramycin. C.R.Stephens, L.H.Conover, F.A.Hochstein, P.P.Regna, F. J. Pilgrim, K.J.Brunings, and RBW, Ibid., 74, 4976 (1952).

Synthese des 3'.8-Dimethyl-1,2-cyclopenteno-phenanthrens. RBW, H.H.Inhoffen, H.O. Larson, and K.H.Menzel, Ber., 86, 594 (1953).

The cyclization of squalene in cholesterol synthesis. RBW, and K. Bloch, J. Am. Chem. Soc., 74, 2023 (1953).

Magnamycin. II. Mycarose, an unusual branched-chain desoxysugar from magnamycin. P.P.Regna, F.A.Hochstein, R.L.Wagner,Jr., and RBW, Ibid., 75, 4625 (1953).

A synthesis of 1,3-butylene oxide. F.Sondheimer, and RBW, Ibid., 75, 5438 (1953).

The structure of terramycin. F.A.Hochstein, C.R.Stephens, L.H.Conover, P.P.Regna, R.Pasternack, P.N.Gordon, F.J.Pilgrim, K.J.Brunings, and RBW, Ibid., 75, 5455 (1953).

The chemistry of the cinchona alkaloids. Richard B. Turner, and RBW, in The Alkaloids, Vol. III, Academic Press, 1953.

A direct stereochemical correlation of a sesquiterpene alcohol with the steroids. B.Riniker, J.Kalvoda, D.Arigoni, A.Fürst, O.Jeger, A.M.Gold, and RBW, J. Am. Chem. Soc., 76, 313 (1954).

The constitutions of cevine and some related alkaloids. D.H.R.Barton, O.Jeger, V.Prelog, and RBW, Experientia, 10, 81 (1954).

The synthesis of lanostenol. RBW, A.A.Patchett, D.H.R.Barton, D.A.J.Ives, and R.B. Kelly, J. Am. Chem. Soc., 76, 2852 (1954).

A direct inter-relationship of lanostadienol (lanosterol) and cholesterol. D.H.R.Barton, D.A.J.Ives, R.B.Kelly, RBW, and A.A.Patchett, Chem. and Ind., 1954, 605.

The structure of aureomycin. C.R.Stephens, L.H.Conover, R.Pasternack, F.A.Hochstein, W.T.Moreland, P.P.Regna, F.J.Pilgrim, K.J.Brunings, and RBW, J. Am. Chem. Soc., 76, 3568 (1954).

The total synthesis of strychnine. RBW, Michael P. Cava, W.D.Ollis, A.Hunger, H.U. Däniker, K.Schenker, Ibid., 76, 4749 (1954).

The total synthesis of lysergic acid and ergonovine. Edmund C. Kornfeld, E.J.Fornefeld, G.Bruce Kline, Marjorie J.Mann, Reuben G. Jones, and RBW, Ibid., 76, 5256 (1954).

The stereochemistry of the santonic acids. RBW, and Peter Yates, Chem. and Ind., 1954, 1391.

Veratrum Alkaloide 5. Über die Konstitution der Decevinisäure. F.Gäutschi, O.Jeger, V.Prelog, and RBW, Helv. chim. acta, XXXVII, 2280 (1954).

Veratrum Alkaloids 6. Die Konstitution der Hexan-tetracarbonsäure aus Cevin und Germín. O.Jeger, R.Mirza, V.Prelog, Ch.Vogel, and RBW, Ibid., XXXVII, 2295 (1954).

Veratrum Alkaloids 7. Die Konstitution des Ringes F und die Absolute Konfiguration des Kohlenstoffatoms 25 des Cevins. O.Jeger, V.Prelog, E.Sandt, and RBW, Ibid., XXXVII, 2302 (1954).

Veratrum Alkaloids 9. Absolute Konfiguration des Kohlenstoffatoms 10 in Cevin und verwandten Alkaloiden. F.Gäutschi, O.Jeger, V.Prelog, and RBW, Ibid., XXXVIII, 296 (1955).

7-Norbornenyl and 7-norbornyl cations. S.Winstein, M.Shatavsky, C.Norton, and RBW, J. Am. Chem. Soc., 77, 4183 (1955).

The total synthesis of strychnine. RBW, XIVth International Congress of Pure and Applied Chemistry, in Experientia Supplementum II, 1955.

Neuere Entwicklungen in der Chemie der Naturstoffe. RBW, Angew. Chem., 68, 13 (1956).

The structures of tetraphyllicine, ajmalidine and rauvomitine. C.Djerassi, M.Gorman, S.C.Pakrashi, and RBW, J. Am. Chem. Soc., 78, 1259 (1956).

The total synthesis of reserpine. RBW, F.E.Bader, H.Bickel, A.J.Frey, and R.W.Kierstead, Ibid., 78, 2023 (1956).

A simplified route to a key intermediate in the total synthesis of reserpine. RBW, F.E.Bader, H.Bickel, A.J.Frey, and R.W.Kierstead, Ibid., 78, 2657 (1956).

4, 5-Dihydro-2, 3; 6, 7-dibenzoxepindion-(4, 5). RBW, F. Mathys, and V. Prelog, Helv. chim. acta, XXXIX, 1095 (1956).

The total synthesis of lysergic acid. E.C. Kornfeld, E.J. Fornefeld, G.B. Kline, M.J. Mann, D.E. Morrison, R.G. Jones, and RBW, J. Am. Chem. Soc., 78, 3087 (1956).

Acidity constants of the tetracycline antibiotics. C.R. Stephens, K. Murai, K.J. Brunings, and RBW, Ibid., 78, 4155 (1956).

Synthesis. RBW, in Perspectives in Organic Chemistry, p. 155, Interscience Publishers, Inc., New York 1956.

The structure and biogenesis of the Macrolides, a new class of natural products. RBW, in Festschrift Arthur Stoll, p. 524, Birkhäuser A.G., Basel, Switzerland, 1957.

Struktur und Biogenese der Makrolide, Eine neue Klasse von Naturstoffen. RBW, Angew. Chem., 69, 50 (1957).

The synthesis of lanosterol (lanostadienol). RBW, A.A. Patchett, D.H.R. Barton, D.A.J. Ives, and R.B. Kelly, J. Chem. Soc., 1957, 1131.

The total synthesis of reserpine. RBW, F.E. Bader, H. Bickel, A.J. Frey, and R.W. Kierstead, Tetrahedron, 2, 1 (1958).

cis-Hydroxylation of a synthetic steroid intermediate with iodine, silver acetate and wet acetic acid. RBW, and F.V. Brutcher, Jr., J. Am. Chem. Soc., 80, 209 (1958).

The structure of gliotoxin. Malcolm R. Bell, John R. Johnson, Bernard S. Wildi, and RBW, Ibid., 80, 1001 (1958).

The Structure and chemistry of ferrocene. III. Evidence pertaining to the ring rotational barrier. Myron Rosenblum and RBW, Ibid., 80, 5443 (1958).

The mechanism of the isomerization of steroidal sapogenins at C.25. RBW, Franz Sondheimer, and Yehuda Mazur, Ibid., 80, 6693 (1958).

The mechanism of the Diels-Alder reaction. RBW and Thomas J. Katz, Tetrahedron, 5, 70 (1959).

A reinvestigation of Thorpe's synthesis of bicyclobutane derivatives. H.O. Larson and RBW, Chem. and Ind., 1959, 193.

The mechanism of the Diels-Alder reaction. RBW and Thomas J. Katz, Tetrahedron Letters, No. 5, p. 19 (1959).

The synthesis of ellipticine. RBW, G. A. Iacobucci, and F. A. Hochstein, J. Am. Chem. Soc., 81, 4434 (1959).

The structure of the thermochromic form of bianthrone. RBW and Edel Wasserman, ibid., 81, 5007 (1959).

Calycanthine: the structure of the alkaloid and its degradation product, calycanine. RBW, N. C. Yang, T. J. Katz, V. M. Clark, J. Harley-Mason, R. F. J. Ingleby, and N. Sheppard, Proc. Chem. Soc., 1960, 76

The structure of oleandomycin. F. A. Hochstein, Hans Els, W. D. Celmer, B. L. Shapiro, and RBW, J. Am. Chem. Soc., 82, 3225 (1960).

The total synthesis of chlorophyll. RBW, W. A. Ayer, J. M. Beaton, F. Bickelhaupt, R. Bonnett, P. Buchschacher, G. L. Closs, H. Dutler, J. Hannah, F. P. Hauck, S. Ito, A. Langemann, E. Le Goff, W. Leimgruber, W. Lwowski, J. Sauer, Z. Valenta, and H. Volz, ibid., 82, 3800 (1960).

Totalsynthese des Chlorophylls. RBW, Angew. Chem., 72, 651 (1960).

The reaction of isoxazolium salts with bases. RBW and R. A. Olofson, J. Am. Chem. Soc., 83, 1007 (1961).

A new synthesis of peptides. RBW, R. A. Olofson, and Hans Mayer, ibid., 83, 1010 (1961).

Structure and the optical rotatory dispersion of saturated ketones. William Moffitt, RBW, A. Moscowitz, W. Klyne, and Carl Djerassi, ibid., 83, 4013 (1961).

The total synthesis of chlorophyll. RBW, Pure and Applied Chemistry, 2, 383 (1961).

A new aspect of the chemistry of chlorins. RBW and Vinko Škarić, J. Am. Chem. Soc., 83, 4676 (1961).

Eine ungewöhnliche Substitutionsreaktion an einem Phenylkern mit nachfolgender Ringerweiterung. E. F. Jenny, K. Schenker and RBW, Angew. Chem., 73, 756 (1961).

Die Cycloaddition von Aethoxyacetylen an Diphenylketen. J. Druey, E. F. Jenny, K. Schenker and RBW, Helv. Chim. Acta, XLV, 600 (1962).

The synthesis of L-(-)-mycarose and L-(-)-cladinose. David M. Lemal, P. D. Pacht, and RBW, Tetrahedron, 18, 1275 (1962)

The total synthesis of 6-demethyl-6-deoxytetracycline. L. H. Conover, K. Butler, J. D. Johnston, J. J. Korst and RBW, J. Am. Chem. Soc., 84, 3222 (1962).

Fundamental studies in the chemistry of macrocyclic systems related to chlorophyll. RBW, Industrie Chimique Belge, 27, 1293 (1962).

The investigation of aromatic properties of cyclic systems in natural pigments. RBW, Jour. of the All-Union Chem. Soc. named after Mendeleev, 7, 384 (1962).

The structure of  $\gamma$ -metasantonin. RBW and Peter Yates, J. Am. Chem. Soc., 85, 551 (1963).

The structure of the  $\alpha$ - and  $\beta$ -metasantonins. RBW and Peter Yates, ibid., 85, 553 (1963).

The structure of tribromosantonin. RBW, S. G. Levine and Peter Yates, ibid., 85, 557 (1963).

The total synthesis of strychnine. RBW, Michael P. Cava, W. D. Ollis, A. Hunger, H. U. Daeniker and K. Schenker, Tetrahedron, 19, 247 (1963).

The total synthesis of a tetracycline. RBW, Pure and Appl. Chem., 6, 561 (1963).

The structure of streptonigrin. K. V. Rao, K. Biemann, and RBW, J. Am. Chem. Soc., 85, 2532 (1963).

Art and science in the synthesis of organic compounds: retrospect and prospect. RBW, in Pointers and Pathways in Research, CIBA of India, Ltd., 1963.

Preparation and reactivity of bridge-substituted bicyclo[3.2.1]octyl and bicyclo[3.3.1]nonyl toluenesulfonates. C. S. Foote and RBW, Tetrahedron, 20, 687 (1964).

Triquinacene. RBW, Tadamichi Fukunaga, and Robert C. Kelly, J. Am. Chem. Soc., 86, 3162 (1964).

The structure of tetrodotoxin. RBW, Pure and Appl. Chem., 9, 49 (1964).

The structure of tetrodotoxin. RBW and J. Zanos Gougoutas, J. Am. Chem. Soc., 86, 5030 (1964).

A total synthesis of colchicine. RBW in The Harvey Lectures, p. 31, Academic Press, New York, 1965.

The stereochemistry at C.5 in oxytetracycline. M. Schach von Wittenau, R. K. Blackwood, L. H. Conover, R. H. Glauert, and RBW, J. Am. Chem. Soc., 87, 134 (1965).

Stereochemistry of electrocyclic reactions. RBW and Roald Hoffmann, J. Am. Chem. Soc., 87, 395 (1965).

Digital computer program for calculation of molecular formulae. D. A. Usher, J. Zanos Gougoutas and RBW, Anal. Chem., 37, 330 (1965).

Selection rules for concerted cycloaddition reactions. Roald Hoffmann and RBW, J. Am. Chem. Soc., 87, 2046 (1965).

Selection rules for sigmatropic reactions. RBW and Roald Hoffmann, ibid., 87, 2511 (1965).

Orbital symmetries and endo-exo relationships in concerted cycloaddition reactions. Roald Hoffmann and RBW, ibid., 87, 4388 (1965).

Orbital symmetries and orientational effects in a sigmatropic reaction. Roald Hoffmann and RBW, ibid., 87, 4389 (1965).

The N-ethylbenzisoxazolium cation. I. Preparation and reactions with nucleophilic species. D. S. Kemp and RBW, Tetrahedron, 21, 3019 (1965).

The structure of magnamycin. RBW, Larry S. Weiler and P. C. Dutta, J. Am. Chem. Soc., 87, 4662 (1965).

The total synthesis of cephalosporin C. RBW, K. Heusler, J. Gosteli, P. Naegeli, W. Oppolzer, R. Ramage, S. Ranganathan, and H. Vorbrüggen, ibid., 88, 852 (1966).

N-Aryl- and N-t-butylisoxazolium salts. RBW and D. J. Woodman, J. Org. Chem., 31, 2039 (1966).

N-t-Butylketoketenimines. RBW and D. J. Woodman, J. Am. Chem. Soc., 88, 3169 (1966).

Recent advances in the chemistry of natural products. RBW in "Les Prix Nobel en 1965," p. 192, P. A. Norstedt and Söner, Stockholm (1966).

Neuste Fortschritte in der Chemie der Naturstoffe. RBW., Angew. Chem., 78, 557 (1966).

Recent advances in the chemistry of natural products. RBW, Science, 153, 487 (1966).

The reaction of isoxazolium salts with nucleophiles. RBW and R. A. Olofson, Tetrahedron, Supplement No. 7, 415 (1966).

A useful synthesis of peptides. RBW, R. A. Olofson and H. Mayer, Tetrahedron, Supplement No. 8 (Part I), 321 (1966).

The reaction of 3-unsubstituted N-arylisoxazolium salts with carboxylic acid anions. RBW, D. J. Woodman, and Yoshiro Kobayashi, J. Org. Chem., 32, 388 (1967).

The conservation of orbital symmetry. RBW in "Aromaticity", p. 217, Special Publication No. 21, The Chemical Society, London, 1967.

The total synthesis of dl-6-demethyl-6-deoxytetracycline. J.J. Korst, J. David Johnston, K. Butler, E. J. Bianco, L. H. Conover and RBW, J. Amer. Chem. Soc., 90, 439 (1968).

The conservation of orbital symmetry. R. Hoffmann and RBW, Accts. Chem. Res., 1, 17 (1968).

Stable enol esters from N-t-butyl-5-methyloxazolium perchlorate. RBW and D. J. Woodman, J. Amer. Chem. Soc., 90, 1371 (1968).

exo-2-Hydroxyepicamphor. Ian Fleming and RBW, J. Chem. Soc. (C), 1289 (1968).

Der Mechanismus der säurekatalysierten Cyclodehydratisierung von 3,4-Bis-[4-oxo-cyclohexen-(1-yl)-hexandiol-(3,4)]. RBW, Roland E. Lehr and H. H. Inhoffen, Ann., 714, 57 (1968).

Recent advances in the chemistry of natural products. RBW, Pure and Applied Chem., 17, 519 (1968).

Dimethyl 1,3-diphenylbicyclobutane-2,4-dicarboxylates. RBW and David L. Dalrymple, J. Amer. Chem. Soc., 91, 4612 (1969).

The methoxazonyl group. RBW and Claude Wintner, Tetrahedron Letters, 2689 (1969).

On the oxidation products of benzaldehyde phenylhydrazone and the isomers of benzil osazone. RBW and Claude Wintner, ibid., 2697 (1969).

On the structure of Max Bergmann's "Benzaldehyde Phenylhydrazone Oxide". RBW and Claude Wintner, ibid., 2693 (1969).

Azlactone formation in the isoxazolium salt method of peptide synthesis. RBW and D. J. Woodman, J. Org. Chem., 34, 2742 (1969).

$\gamma$  Elimination of a sulfonyl group to form a cyclopropane ring. W. L. Parker and RBW, ibid., 34, 3085 (1969).

Die Erhaltung der Orbitalssymmetrie. RBW and R. Hoffmann, Angew. Chem., 81, 797 (1969); Verlag Chemie, 1970.

The conservation of orbital symmetry. RBW and R. Hoffmann, Angew. Chem., Int. Ed., 8, 781 (1969); Verlag Chemie/Academic Press, 1970.

Orbital symmetry control of chemical reactions. R. Hoffmann and RBW, Science, 167, 825 (1970).

Cycloaddition reactions of cycloheptatriene and 2, 5-dimethyl-3, 4-diphenylcyclopentadienone. K. N. Houk and RBW, J. Amer. Chem. Soc., 92, 4143 (1970).

Cycloaddition reactions of tropone and 2, 5-dimethyl-3, 4-diphenylcyclopentadienone. K. N. Houk and RBW, ibid., 4145 (1970).

Photosensitive protecting groups. A. Patchornik, B. Amit and RBW, ibid., 6333 (1970).

Dithiotosylates as reagents in organic synthesis. RBW, I. J. Pachter and M. L. Scheinbaum, J. Org. Chem., 36, 1137 (1971).

Recent advances in the chemistry of natural products. RBW, Pure and Applied Chem., 25, 283 (1971).

Neue  $\beta$ -Lactam-Antibiotika. Über die Darstellung der "7-Aminocephalocillansäure." R. Scartazzini, H. Peter, H. Bickel, K. Heusler and RBW, Helv. Chim. Acta, 55, 408 (1972).

Neue  $\beta$ -Lactam-Antibiotika. Über die Darstellung der 8- $\beta$ -phenylacetamido-homoceph-4-em-5-carbonsäure (1). R. Scartazzini, J. Gosteli, H. Bickel and RBW, ibid., 55, 2567 (1972).

Das Konzept von der Erhaltung der Orbitalssymmetrie. R. Hoffmann and RBW, Chemie in unserer Zeit, 6, 167 (1972).

The total synthesis of vitamin B<sub>12</sub>. RBW, Pure and Applied Chem., 33, 145 (1973).

Synthesis and revised structure of dehydroisolongistrobine. M. A. Wuonola and RBW, J. Amer. Chem. Soc., 95, 284 (1973).

Den reaktionskontrollerande orbitalssymmetrin. R. Hoffmann and RBW, Kemisk Tidskrift, 85, 28 (1973).

Synthesis and revised structure of isolongistrobine. M. A. Wuonola and RBW, J. Amer. Chem. Soc., 95, 5098 (1973).

A synthesis of (-)-(R)-trans- $\beta$ -(1, 2, 3-Trimethylcyclopent-2-enyl)acrylic acid. Ian Fleming and RBW, J. Chem. Soc., Perkin Trans. I, 1653 (1973).

A novel synthesis of prostaglandin F<sub>2a</sub>. RBW, J. Gosteli, I. Ernest, R. J. Friary, G. Nestler, H. Raman, R. Sitrin, Ch. Suter, J. K. Whitesell, J. Amer. Chem. Soc., 95, 6853 (1973).

Trimethylene dithiotosylate and ethylene dithiotosylate, RBW, I. J. Pachter and M. L. Scheinbaum, Org. Syn., 54, 33 (1974). Ed. R. E. Ireland, John Wiley and Sons

2, 2-(Ethylenedithio)cyclohexanone, RBW, I. J. Pachter and M. L. Scheinbaum, Org. Syn., 54, 37 (1974). Ed. R. E. Ireland, John Wiley and Sons

2, 2-(Trimethylenedithio)cyclohexanone, RBW, I. J. Pachter and M. L. Scheinbaum, Org. Syn., 54, 39 (1974). Ed. R. E. Ireland, John Wiley and Sons

The Total Synthesis of Vitamin B<sub>12</sub>, RBW, Uspekki Khimii, 43, 727 (1974) [translated into Russian from Pure Appl. Chem., 33, 145 (1973)]

Imidazole Alkaloids of Macrorungia Longistrobus, Revised Structures and Total Syntheses. M.A. Wuonola and RBW, Tetrahedron, 32, 1085 (1976).

Pyrrole Chemistry. The Cyanovinyl Aldehyde Protecting Groups. J.B. Paine III, RBW, and D. Dolphin, J. Org. Chem., 41, 2826 (1976).

Total Synthesis of Marasmine Acid. W.J. Greenlee and RBW, J. Amer. Chem. Soc., 98, 6075 (1976).

Synthesis of 3-Hydroxy Cephems. H. Pfaendler, P. Rossy, J. Gosteli and RBW, Heterocycles, 5, 293 (1976).

Synthetic Analogs of  $\beta$ -Lactam Antibiotics. Biologically Active 2-Alkylidene-3-Deacetoxymethyl Cephalosporins. RBW, K. Heusler, I. Ernest, K. Burri, R.J. Friary, F. Haviv, W. Oppolzer, R. Paioni, K. Syhora, R. Wenger, and J.K. Whitesell, Nouveau Journal de Chimie, 1, 85 (1977).