Landolt-Börnstein

Group II: Molecules and Radicals

Volume 17

Magnetic Properties of Free Radicals

Subvolume C

Conjugated Carbon-Centered and Nitrogen Radicals

Tit	e l	Page	, Pret	ace
110		ugo	, , , ,	uoc

	General introduction (H. FISCHER)	1
4	Carbon radicals with conjugated π -systems (A. BERNDT)	5
4.1	Introduction	5
4.2	Radicals with 3 conjugated π -electrons	8
4.2.1	Allyl and deuterated allyl radicals	8
4.2.2	Alkyl-substituted allyl radicals	10
4.2.3	Allyl radicals containing Cl	12
4.2.4	Allyl radicals containing oxygen	13
4.2.5	Allyl radicals containing sulfur	18
4.2.6	Allyl radicals containing nitrogen or phosphorus	20
4.2.7	Allyl radicals containing silicon	23
4.2.8	Allyl radicals containing Ag, Al, Au, Cu	24
4.2.9	Phenyl- and aryl-substituted allyl radicals	25
4.2.10	Aza-allyl and oxaallyl radicals	29
4.2.11	Semicyclic allyl radicals	30
4.2.12	Cyclopropenyl radicals	32
4.2.13	Isocyclic allyl radicals	33
4.2.14	Heterocyclic allyl radicals	36
4.2.15	Bicyclic allyl radicals	48
4.2.16	Allenyl (propargyl) radicals	54
4.3	Radicals with 5 conjugated π -electrons	58
4.3.1	Pentadienyl radicals	58
4.3.2	Pentenynyl radicals	64
4.3.3	Pentadiynyl radicals	65
4.3.4	Semicyclic pentadienyl radicals	66
4.3.5	Cyclic pentadienyl radicals	70
4.3.6	Cyclopentadienyl radicals	70
4.3.7	Cyclohexadienyl radicals	88
4.3.8	Pyryl radicals	109
4.3.9	Thiapyryl radicals	118
4.3.10	Pyridinyl radicals	127
4.3.11	Phosphorinyl radicals	158
4.3.12	Sila-cyclohexadienyl radicals	164

Radicals with 7 conjugated π -electrons	165
Heptatrienyl radicals	165
Trivinylmethyl radicals	165
Heptadienynyl radicals	165
Cycloheptatrienyl radicals	166
Cyclopentadienidemethyl radicals	170
Benzyl radicals	171
Benzyl-type radicals containing heterocyclic 6 π -electron ring systems	229
Bicyclic benzyl-type radicals	234
Radicals with 9 conjugated π -electrons	242
Radicals with 11 conjugated π -electrons	251
Radicals with 13 conjugated π -electrons	251
Phenalenyl (perinaphthenyl) radicals	251
Diphenylmethyl radicals	260
Fluorenyl radicals	298
Dibenzocyclohexadienyl and related radicals	317
Xanthyl radicals	318
Thioxanthyl and related radicals	321
Selenoxanthyl radicals	325
Acridinyl and related radicals	327
Phenanthridinyl and related radicals	328
Diphenylmethyl-type radicals containing heterocyclic 6 π -electron systems	328
Radicals with 15 conjugated π -electrons	347
Radicals with 17 conjugated π -electrons	348
Radicals with 19 conjugated π -clectrons	349
Benzopyrenyl radical	349
Triphenylmethyl radicals	349
9-Phenylfluorenyl radicals	367
Triphenylmethyl radicals with carbon-connected ortho-positions	369
Phenylxanthyl radicals	369
Triphenylmethyl-type radicals containing 5-membered rings	370
Figures	371
References for 4	378
Nitrogen-centered radicals (F.A. NEUGEBAUER)	387
Introduction	387
Aminyl radicals	388
Borylaminyl radicals	438
Germylaminyl radicals	439
Hydrazyl and hydrazonyl radicals	439
Oxyaminyl radicals	481
Phosphorylaminyl radicals	498
Thioaminyl radicals	499
	Heptatrienyl radicals Trivinylmethyl radicals Heptadienynyl radicals Cycloheptatrienyl radicals Cyclopentadienidemethyl radicals Benzyl radicals Benzyl-type radicals containing heterocyclic 6 π-electron ring systems Bicyclic benzyl-type radicals Radicals with 9 conjugated π-electrons Radicals with 11 conjugated π-electrons Radicals with 13 conjugated π-electrons Radicals with 13 conjugated π-electrons Phenalenyl (perinaphthenyl) radicals Diphenylmethyl radicals Fluorenyl radicals Fluorenyl radicals Dibenzocyclohexadienyl and related radicals Xanthyl radicals Thioxanthyl radicals Acridinyl and related radicals Selenoxanthyl radicals Acridinyl and related radicals Phenanthridinyl and related radicals Diphenylmethyl-type radicals containing heterocyclic 6 π-electron systems Radicals with 15 conjugated π-electrons Radicals with 15 conjugated π-electrons Radicals with 19 conjugated π-electrons Benzopyrenyl radical Triphenylmethyl radicals Triphenylmethyl radicals Triphenylmethyl radicals Triphenylmethyl radicals Triphenylmethyl-type radicals containing 5-membered rings Figures References for 4 Nitrogen-centered radicals (F.A. NEUGEBAUER) Introduction Aminyl radicals Borylaminyl radicals Germylaminyl radicals Hydrazyl and hydrazonyl radicals Phosphorylaminyl radicals

5.8	Silylaminyl radicals	560
5.9	Iminyl radicals	563
5.10	Diazenyl radicals	575
5.11	Triazenyl radicals	580
5.12	Iminoxyl radicals	584
5.13	(Azo)oxyl radicals	633
5.14	Iminothiyl radicals	634
5.15	References for 5	635
	List of symbols and abbreviations (H. FISCHER) Index of Substances (See Vol. 17H)	643