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BrNa NaBr	**Sodium bromide** J. K. Dewhurst, P. D. McCaffrey, R. J. Mawhorter and D. W. H. Rankin Structure by ED and *ab initio* calculations Manuscript in preparation.
Br_2Na_2 Na_2Br_2	**Sodium bromide dimer** J. K. Dewhurst, P. D. McCaffrey, R. J. Mawhorter and D. W. H. Rankin Structure by ED and *ab initio* calculations Manuscript in preparation.
CH_5P CH_3PH_2	**Methylphosphine** R. Noble-Eddy, S. L. Masters (née Hinchley), D. W. H. Rankin, D. A. Wann, B. Khater and J.-C. Guillemin Structure by ED, MW and *ab initio* calculations Dalton Trans. (2008), 5041-5047
CH_8BN $(CH_3)H_2NBH_3$	**Methylaminoborane** S. Aldridge, A. J. Downs, C. Y. Tang, S. Parsons, M. C. Clarke, R. D. L. Johnstone, H. E. Robertson, D. W. H. Rankin and D. A. Wann Structure by X-ray, ED and *ab initio* calculations J.Am.Chem.Soc., accepted subject to corrections.
CH_8BP $CH_3PH_2BH_3$	**Methyl phosphine borane adduct** R. Noble-Eddy, S. L. Masters (née Hinchley), D. W. H. Rankin, D. A. Wann, B. Khater and J.-C. Guillemin Structure by ED, MW and *ab initio* calculations Dalton Trans. (2008), 5041-5047
$C_2Cl_2N_2S$ $C_2Cl_2N_2S$	**3,4-Dichloro-1,2,5-thiadiazole** J. T. Schirlin, D. A. Wann, S. F. Bone, H. E. Robertson and D. W. H. Rankin

	Structure by ED and computational methods Manuscript submitted.
$C_2H_{10}BN$ $(CH_3)_2HNBH_3$	**Dimethylaminoborane** S. Aldridge, A. J. Downs, C. Y. Tang, S. Parsons, M. C. Clarke, R. D. L. Johnstone, H. E. Robertson, D. W. H. Rankin and D. A. Wann Structure by X-ray, ED and *ab initio* calculations J. Am. Chem. Soc., accepted subject to corrections.
$C_3Cl_3N_3$ $C_3N_3Cl_3$	**2,4,6-Trichloro-1,3,5-triazine** D. A. Wann, A. M. Reilly, P. D. McCaffrey and D. W. H. Rankin. Structure by ED and *ab initio* calculations Manuscript submitted.
$C_3H_3F_3O_2$ CF_3COOCH_3	**Methyl trifluoroacetate** M. E. Defonsi Lestard, M. E. Tuttolomondo, E. L. Varetti, D. A. Wann, H. E. Robertson, D. W. H. Rankin and A. Ben Altabef Structure by ED and *ab initio* calculations Manuscript complete.
$C_3H_6Cl_3N$ $N(CH_2Cl)_3$	**Tris(chloromethyl)amine** N. W. Mitzel, J. T. Schirlin, S. L. Masters, D. W. H. Rankin et al. Structure by ED and computational methods Manuscript in preparation.
$C_3H_{10}Ge$ Me_3GeH	**Trimethylgermane** M. L. Roldán, S. A. Brandán, S. L. Masters, D. A. Wann, H. E. Robertson, D. W. H. Rankin and A. Ben Altabef Vibrational spectra and structure by ED and computational methods Manuscript submitted to J. Phys. Chem. A
$C_4HCl_3N_2$ $C_4N_2Cl_3$	**2,4,6-Trichloropyrimidine** S. L. Masters, D. A. Wann and D. W. H. Rankin Structure by ED and computational methods Manuscript in preparation.
$C_4H_2Cl_2S$ $C_4H_2Cl_2S$	**2,5-Dichlorothiophene** J. T. Schirlin, D. A. Wann, S. F. Bone, H. E. Robertson and

	D. W. H. Rankin Structure by ED and computational methods Manuscript submitted.
$C_4H_2F_6O_2$ $CF_3CO_2CH_2CF_3$	**Trifluoroethyltrifluoroacetate** M. E. Defonsi Lestard, M. E. Tuttolomondo, E. L. Varetti, D. A. Wann, H. E. Robertson, D. W. H. Rankin and A. Ben Altabef Structure by ED and *ab initio* calculations J. Mol. Struct. in press
C_4H_3BrS 2-Br-C_4H_3S	**2-Bromothiophene** J. T. Schirlin, D. A. Wann, S. F. Bone, H. E. Robertson and D. W. H. Rankin Structure by ED and computational methods Manuscript submitted.
C_4H_3ClS C_4H_3ClS	**2-Chlorothiophene** J. T. Schirlin, D. A. Wann, S. F. Bone, H. E. Robertson and D. W. H. Rankin Structure by ED and computational methods Manuscript submitted.
$C_4H_5F_3OS$ $CF_3COSCH_2CH_3$	**Ethyl trifluorothioacetate** M. E. Defonsi Lestard, M. E. Tuttolomondo, E. L. Varetti, D. A. Wann, H. E. Robertson, D. W. H. Rankin and A. Ben Altabef Structure by ED and *ab initio* calculations Manuscript in preparation.
$C_4H_5F_3O_2$ $CF_3COOCH_2CH_3$	**Ethyl trifluoroacetate** M. E. Defonsi Lestard, M. E. Tuttolomondo, E. L. Varetti, D. A. Wann, H. E. Robertson, D. W. H. Rankin and A. Ben Altabef Structure by ED and *ab initio* calculations Manuscript in preparation.
$C_4H_{10}N_4Si$ $(N_4CH)SiMe_3$	**1-Trimethylsilyltetrazole** D. A. Wann, I. Gronde, T. Foerster, S. A. Hayes, S. L. Masters, H. E. Robertson, N. W. Mitzel and D. W. H. Rankin Structure by ED, X-ray and computational methods Dalton Trans. (2008), 3817-3823

$C_5H_{11}N_3Si$ $SiMe_3$-NNCNC	**1-(Trimethylsilyl)-1,2,4-triazole** D. A. Wann, I. Gronde, T. Foerster, S. A. Hayes, S. L. Masters, H. E. Robertson, N. W. Mitzel and D. W. H. Rankin Structure by ED and computational methods Dalton Trans. (2008), 3817-3823
C_6HCl_5 C_6HCl_5	**Pentachlorobenzene** R. Blom, D. A. Wann, D. W. H. Rankin et al. Structure by ED and liquid crystal NMR spectroscopy Manuscript in preparation.
$C_6H_2Cl_4$ 1,2,3,4-$C_6H_2Cl_4$	**1,2,3,4-Tetrachlorobenzene** R. Blom, D. A. Wann, D. W. H. Rankin et al. Structure by ED and liquid crystal NMR spectroscopy Manuscript in preparation.
C_6H_4BrF C_6H_4BrF	**1-Bromo-4-fluorobenzene** S. L. Masters, I. D. Mackie, D. W. H. Rankin, H. E. Robertson and S. Parsons Structure by ED, liquid crystal NMR spectroscopy, *ab initio* calculations and X-ray diffraction Manuscript complete.
C_6H_4ClF C_6H_4ClF	**1-Chloro-4-fluorobenzene** S. L. Masters, I. D. Mackie, D. W. H. Rankin, H. E. Robertson and S. Parsons Structure by ED, liquid crystal NMR spectroscopy, *ab initio* calculations and X-ray diffraction Manuscript complete.
$C_6H_4F_2$ $C_6H_4F_2$	**1,4-Difluorobenzene** E. M. Brown, P. D. McCaffrey, D. A. Wann and D. W. H. Rankin Structure by ED and liquid crystal NMR spectroscopy Manuscript in preparation.
$C_6H_4F_2$ 1,2-$C_6H_4F_2$	**1,2-Difluorobenzene** E. M. Brown, P. D. McCaffrey, D. A. Wann and D. W. H. Rankin Structure by ED and liquid crystal NMR spectroscopy Manuscript in preparation.

C_6H_6ClN $C_6H_4ClNH_2$	**2-Chloroaniline** D. A. Wann, C. K. Spanswick, H. E. Robertson et al. Structure by ED and *ab initio* calculations Manuscript in preparation.
$C_6H_{11}NSSi$ $SiMe_3$-cyclo-CNCCS	**2-(Trimethylsilyl)-1,3-thiazole** T. Foerster, D. A. Wann, H. E. Robertson and D. W. H. Rankin Structure by ED and computational methods Manuscript in preparation.
$C_6H_{12}F_6Si_2$ $CF_3Me_2SiSiMe_2CF_3$	**1,2-Trifluoromethyl-1,1,2,2-tetramethyldisilane** S. L. Masters, D. A. Wann, H. E. Robertson, F. Lennox, D. W. H. Rankin, I. Arnason, K. Hassler et al. Structure by ED and *ab initio* calculations, interpretation of Raman spectra Manuscript in preparation.
C_7F_{14} $C_6F_{11}CF_3$	**Perfluoromethylcyclohexane** G. R. Kafka, S. L. Masters, D. W. H. Rankin et al. Structure by ED and *ab initio* calculations Manuscript in preparation.
C_7H_9N $C_6H_4MeNH_2$	**2-Methylaniline** D. A. Wann, C. K. Spanswick, H. E. Robertson et al. Structure by ED and *ab initio* calculations Manuscript in preparation.
$C_7H_{16}Cl_3PSi$ (tBu)(iPr)$PSiCl_3$	**(*tert*-butyl)(*iso*-propyl)(trichlorosilyl)phosphine** E. Seppälä, W.-W. du Mont, S. L. Masters, D. W. H. Rankin and H. E. Robertson Structure by ED and *ab initio* calculations Manuscript in preparation.
$C_8H_{24}B_4N_4S_2$ $B_4S_2(NMe_2)_4$	**Tetrakis(dimethylamino)-1,4-dithiatetraborinane** D. A. Wann, H. E. Robertson, G. Bramham, A. E. A. Bull, N. C. Norman, C. A. Russell and D. W. H. Rankin Structure by ED and *ab initio* calculations Dalton Trans., accepted subject to minor corrections.
$C_8H_{24}O_{12}Si_8$ $Si_8O_{12}Me_8$	**Octamethylsilsesquioxane** D. A. Wann, R. J. Less, F. Rataboul, P. D. McCaffrey, A. M. Reilly, H. E. Robertson, P. D. Lickiss and D. W. H.

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$C_9H_{13}N_3Si$ $SiMe_3$-$NN(C_6H_4)N$	**1-(Trimethylsilyl)-1H-benzotriazole** T. Foerster, D. A. Wann, H. E. Robertson and D. W. H. Rankin Structure by ED and computational methods Manuscript in preparation.
$C_9H_{24}Br_4Si_4$ $C(SiMe_2Br)_4$	**Tetrakis(bromodimethylsilyl)methane** K. Batz, G. R. Kafka, P. D. Lickiss, S. L. Masters, H. E. Robertson and D. W. H. Rankin Structure by ED and computational methods Manuscript in preparation.
$C_9H_{24}Cl_4Si_4$ $C(SiMe_2Cl)_4$	**Tetrakis(chlorodimethylsilyl)methane** K. Batz, G. R. Kafka, P. D. Lickiss, S. L. Masters, H. E. Robertson and D. W. H. Rankin Structure by ED and computational methods Manuscript in preparation.
$C_9H_{24}F_4Si_4$ $C(SiMe_2F)_4$	**Tetrakis(fluorodimethylsilyl)methane** K. Batz, G. R. Kafka, P. D. Lickiss, S. L. Masters, H. E. Robertson and D. W. H. Rankin Structure by ED and computational methods Manuscript in preparation.
$C_9H_{28}Si_4$ $C(SiMe_2H)_4$	**Tetrakis(dimethylsilyl)methane** K. Batz, P. D. Lickiss, S. L. Masters, H. E. Robertson and D. W. H. Rankin Structure by ED and computational methods Manuscript in preparation.
$C_{10}H_{17}P$ $C_{10}H_{15}PH_2$	**Adamantylphosphine** J. R. Goerlich, D. A. Wann, R. Schmutzler, D. W. H. Rankin, H. E. Robertson and A. R. Turner Structure by ED and *ab initio* calculations Manuscript in preparation.
$C_{10}H_{18}ClP_3$ $P_2C(t\text{-}Bu)_2PCl$	**Tricyclo-$ClP_3C_2(t\text{-}Bu)_2$** D. A. Wann, C. A. Russell, H. E. Robertson and D. W. H. Rankin

	Structure by ED and computational methods Manuscript in preparation.
$C_{10}H_{20}N_2$ ButN=CHCH=NBut	**N,N'-Di-*tert*-butyl-1,4-diaza-1,3-butadiene** C. Jones, D. A. Wann, H. E. Robertson and D. W. H. Rankin Structure by ED and computational methods Manuscript in preparation.
$C_{10}H_{26}Ga_2O_4$ $[Me_2Ga(OCH_2CH_2OMe)]_2$	**bis[μ-(2-methoxyethanolato-κO:κO)](tetramethyl)digallium** D. A. Wann, C. E. Knapp, C. J. Carmalt, H. E. Robertson, D. W. H. Rankin et al. Structure by ED and *ab initio* calculations Manuscript in preparation.
$C_{10}H_{30}Si_4$ $(Me_3Si)_3CSiH_3$	**(Silyl)tris(trimethylsilyl)methane** K. Batz, P. D. Lickiss, S. L. Masters, H. E. Robertson and D. W. H. Rankin Structure by ED and computational methods Manuscript in preparation.
$C_{11}H_{30}Br_2Si_4$ $C(SiMe_3)_2(SiMe_2Br)_2$	**Bis(bromodimethylsilyl)bis(trimethylsilyl)methane** K. Batz, P. D. Lickiss, S. L. Masters, H. E. Robertson and D. W. H. Rankin Structure by ED and computational methods Manuscript in preparation.
$C_{11}H_{30}Cl_2Si_4$ $(Me_3Si)_2C(SiClMe_2)_2$	**Bis(chlorodimethylsilyl)-bis(trimethylsilyl)methane** K. Batz, P. D. Lickiss, S. L. Masters, H. E. Robertson and D. W. H. Rankin Structure by ED and computational methods Manuscript in preparation.
$C_{11}H_{32}Si_4$ $C(SiMe_3)_2(SiMe_2H)_2$	**Bis(dimethylsilyl)bis(trimethylsilyl)methane** K. Batz, P. D. Lickiss, S. L. Masters, H. E. Robertson and D. W. H. Rankin Structure by ED and computational methods Manuscript in preparation.
$C_{12}Fe_3O_{12}$ $Fe_3(CO)_{12}$	**Dodecacarbonyltriiron** G. R. Kafka, S. L. Masters, D. W. H. Rankin et al. Structure by ED and *ab initio* calculations

	Manuscript in preparation.
$C_{12}H_{32}Ga_2N_2O_2$ $[Me_2Ga(OCH_2CH_2NMe_2)]_2$	**bis{μ-[$_2$-(dimethylamino)ethanolato-κO:κO]}(tetramethyl)digallium** C. E. Knapp, C. J. Carmalt, P. F. McMillan, D. A. Wann, H. E. Robertson and D. W. H. Rankin Structure by ED and *ab initio* calculations Dalton Trans., in press
$C_{16}H_{38}N_4W$ $W(NHBut)_2(NBut)_2$	**Bis(*tert*-butylamino)-bis(*tert*-butylimido)tungsten** H. Choujaa, S. D. Cosham, A. L. Johnson, G. R. Kafka, M. F. Mahon, S. L. Masters, K. C. Molloy, D. W. H. Rankin, H. E. Robertson and D. A. Wann Structure by ED and *ab initio* calculations Inorg. Chem., accepted subject to minor revisions
FNa NaF	**Sodium fluoride** J. K. Dewhurst, P. D. McCaffrey, R. J. Mawhorter and D. W. H. Rankin Structure by ED and *ab initio* calculations Manuscript in preparation.
F_2Na_2 Na_2F_2	**Sodium fluoride dimer** J. K. Dewhurst, P. D. McCaffrey, R. J. Mawhorter and D. W. H. Rankin Structure by ED and *ab initio* calculations Manuscript in preparation.
F_4P_2S $S(PF_2)_2$	**Bis(difluorophosphino) sulfide** A. M. Reilly, D. A. Wann and D. W. H. Rankin Structure by ED and *ab initio* calculations, and explanation of NMR spectra J. Phys. Chem. A, in press.
$H_8O_{12}Si_8$ $H_8Si_8O_{12}$	**Octa-silsesquioxane** D. A. Wann, R. J. Less, F. Rataboul, P. D. McCaffrey, A. M. Reilly, H. E. Robertson, P. D. Lickiss and D. W. H. Rankin Structure by ED and *ab initio* calculations Organometallics **27** (2008), 4183-4187
$H_{10}O_{15}Si_{10}$ $Si_{10}O_{15}H_{10}$	**Decasilsesquioxane** D. A. Wann, F. Rataboul, A. M. Reilly, H. E. Robertson, P.

	D. Lickiss and D. W. H. Rankin Structure by ED and *ab initio* calculations Manuscript in preparation.
INa NaI	**Sodium iodide** J. K. Dewhurst, P. D. McCaffrey, R. J. Mawhorter and D. W. H. Rankin Structure by ED and *ab initio* calculations Manuscript in preparation.
I_2Na_2 Na_2I_2	**Sodium iodide dimer** J. K. Dewhurst, P. D. McCaffrey, R. J. Mawhorter and D. W. H. Rankin Structure by ED and *ab initio* calculations Manuscript in preparation.
	Gas-phase molecular structures determined by electron diffraction D. W. H. Rankin and H. E. Robertson Review of structure of inorganic molecules published in 2005 Royal Society of Chemistry Specialist Periodical Reports, "Spectroscopic Properties of Inorganic and Organometallic Compounds" **39** (2007), 355-367
	Gas-phase molecular structures determined by electron diffraction D. W. H. Rankin and H. E. Robertson Review of structure of inorganic molecules published in 2006 - 2007 Royal Society of Chemistry Specialist Periodical Reports, "Spectroscopic Properties of Inorganic and Organometallic Compounds", in press
	Stereochemistry of free boranes and heteroboranes from electron scattering and model chemistries D. Hnyk and D. W. H. Rankin Dalton Trans. (2009), in press.