

CURRICULUM VITAE

NAME: Ian David Brown

PERSONAL DATA:

Date of Birth: April 11, 1932

Country of Birth: U.K.

Citizenship: Canadian , UK

Married 1961, June 17: Mariana Clare (Paterson) : Died 2005 December 12

CHILDREN:

Elizabeth Anna	1963, April 23
Catherine Victoria	1965, February 2
Alison Julia	1968, July 23

EDUCATION:

B.Sc. 1955	University of London (Kings College)	(General)
B.Sc. 1956	University of London (Kings College)	(Physics)
Ph.D. 1959	University of London (External)	(Crystallography)

CURRENT STATUS AT McMASTER:

Professor Emeritus, Department of Physics and Astronomy

PROFESSIONAL ORGANIZATIONS: * = Professional membership

*Member, Institute of Physics (U.K.)	1960-
*Member, Canadian Association of Physicists	1962-
*Fellow, Chemical Institute of Canada	1983-
Member, Royal Chemical Society (London)	1964-
Fellow, American Crystallographic Association	1966-
Member, Royal Institution of Great Britain	1956-
Member, British Crystallographic Association	

EMPLOYMENT HISTORY:

1950-52 2nd Lieutenant, Royal Signals (National Service)
 1952-56 Undergraduate, University of London (Kings College)
 1956-58 Graduate Student, Royal Institution, London
 1958-59 Graduate Student, Department of Organic Chemistry, E.T.H., Zurich
 1959-62 Postdoctoral Fellow in Metallurgy, McMaster University, Hamilton, Ontario
 1962-66 Assistant Professor of Physics, McMaster University, Hamilton, Ontario
 1964 Tenure, Mc Master University, Hamilton, Ontario
 1966-74 Associate Professor of Physics, McMaster University, Hamilton, Ontario
 1969-70 Leave of absence, Terms I and II, Department of Zoology, Oxford University, U.K.
 1969-96 Associate Member, Department of Metallurgy and Materials Science, McMaster University, Hamilton, Ontario
 1971-74 Associate Member, Department of Chemistry, McMaster University, Hamilton, Ontario
 1974-96 Professor, Department of Physics, McMaster University, Hamilton, Ontario
 1976-77 Leave of absence, Terms I and II, University Chemical Laboratory, Cambridge, U.K.
 1979-96 Associate Member, Department of Chemistry, McMaster University, Hamilton, Ontario
 1983-84 Leave of absence, Term II (spring)
 1990-91 Leave of absence, Terms I and II
 1994 Leave of absence, Term I (fall)
 Visiting Professor, Department of Chemistry, University of Amsterdam, Netherlands
 1996- Emeritus Professor of Physics, McMaster University
 1997 Post retirement adjunct Professor of Physics, McMaster University

SCHOLARLY AND PROFESSIONAL ACTIVITIES:

1963-69 Consultant, Ontario Centre of Science and Technology
 1965-68 Registrar, Canadian Association of Physicists
 1964-75 Section Editor, Structure Reports
 1972-84 Member, International Union of Crystallography Data Commission
 1981-84 Chairman, International Union of Crystallography Data Commission
 1984-93 Consultant, International Union of Crystallography Data Commission
 1972-78 Member, Canadian National Committee for the International Union of Crystallography
 1975 Alternate Canadian Delegate, International Union of Crystallography, X General Assembly, Amsterdam
 1976-78 Chairman, Canadian National Committee for the International Union of Crystallography
 1981-84 IUCr Delegate to CODATA

- 1978 Chairman, Canadian Delegation, International Union of Crystallography, XI General Assembly, Warsaw
- 1978 NRCC Workshop on Computing in Crystallography, Asilomar
- 1980-83 OCGS Appraisal Committee
- 1984-92 Member, Canadian National Committee for CODATA
- 1986 Local Chairman, American Crystallographic Association Annual Conference (McMaster)
- 1988-92 Member of the American Institute of Physics ad hoc Committee on Numeric Databases
- 1988-91 American Crystallographic Association Computing and Data Committee
- 1990-99 Member, International Union of Crystallography Teaching Commission
- 1990- Co-Editor, Acta Crystallographica
- 1991-95 Canadian Councillor, American Crystallographic Association
- 1993-2011 Chairman, COMCIF, standing committee of the International Union of Crystallography on Crystallographic Information File structure
- 1995-2011 Member, International Union of Crystallography Commission on Crystallographic Nomenclature
- 1997-2011 Member of the International Center for Diffraction Data
- 2002-11 Member, International Union of Crystallography Commission on Crystallographic Computing
- 2002-11 Member, International Union of Crystallography Commission on Inorganic and Mineral Structures
- 2002 Canadian delegate to the International Union of Crystallography General Assembly

Teaching in Professional Schools

- 1983 Summer School on Crystallographic Computing, Kyoto, Japan
- 1988 Summer School on Crystallographic Teaching, Tianjin, PRChina
- 1990 Winter School on Crystallography of Natural Materials Bangkok, Thailand
- 1994 Teacher in Course on Crystallography, University of the Andes, Merida, Venezuela

AREAS OF SCIENTIFIC INTEREST:

Structural Chemistry of Inorganic Solids,
Chemical Bonding
Computer Based Information Systems

HONOURS:

- 1983 Fellow of the Chemical Institute of Canada
- 2016 Fellow of the American Crystallographic Association

POST DOCTORAL FELLOWS Subsequent Employment

1968-69	A. C. Cowley	Housewife, St.Catharines,Ont.
1969	I. Singh	Lecturer, Mohawk College,Hamilton
1969-71	J. J. Park	Milwaukee
1971-74	K. K. Wu	Research Ass., U.Oklahoma
1975-77	M. Natarajan	
1979-80	P. Mitrapracachechon	Khoh Kaen University, Thailand
1979-81	C. R. Gopinath	Prof. Central College, Bangalore, India
1983-85	D. Altermatt	Consultant, Basel, Switzerland
1986-88	R. Duhlev	Elsevier, Manager, Journals on Structural Materials
1992-93	M. Kunz	UCBerkeley
1995-96	B. Bagautdinov	Japan

GRADUATE STUDENTS

Student	Year	Program	Thesis/Project Title
J. K. Brandon (Physics) Dept.Physics University of Waterloo	1967	Ph.D.	Crystal structures of CH_3SO_3 , $\text{LiN}_2\text{H}_5\text{SO}_4$ and $\text{K}_2\text{Cr}_2\text{O}_7$
A. K. Das (Physics) 346 Peace Rd, Lalpur, Ranchi,India	1967	M.Sc.	An X-ray diffraction study of $(\text{NH}_4)_2\text{TeBr}_6$ and Cs_2TeBr_6 .
G. L. Betzner (Chemical Physics) Parkside High School, Dundas	1967	M.Sc.	Crystal structure of $[\text{ReOOH}(\text{en}_2)] (\text{ClO}_4)_2$.
S. Narasinga Rao (Physics)	1969	M.Sc.	Redetermination of the structure of K_2SnBr_6 at room temperature
E. A. Marseglia (Chemistry) Cavendish Laboratory, Cambridge, UK	1971	Ph.D.	Crystal structures of some ternary oxides and fluorides.
D. B. Crump (Chemistry)	1971	Ph.D.	X-ray diffraction studies of some polyatomic cations in the solid and liquid state.
N. C. Panagiotopoulos (Physics) Deceased 2002	1972	Ph.D.	Crystallographic study of alkali metal dichromates.

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|---|------|--|
| P. H. Stothart
(Biophysics) | 1973 | M.Sc. The crystal and molecular structure of Conrotatory 2'-O-tetrahydro- pyranyluridine as determined by X-ray diffraction. |
| M. R. Anderson
(Physics)
Deceased 1987 | 1973 | Ph.D. Diffraction on studies on hydrazinium compounds. |
| Z. Tun
(Physics)
AECL, Chalk River, Ontario | 1985 | Ph.D. Some mercury compounds in low oxidation states. |
| A. Skowron
(Materials Science & Engineering) | 1991 | Ph.D. Structural Chemistry of Lead-Antimony and Lead-Bismuth Sulphides |

PUBLICATIONS:

(a) Books

1. I. D. Brown and M. Dolley, A Bibliography of Coin Hoards of Great Britain and Ireland 1500-1967. London: R. Numismatic Soc. and Spink and Son Ltd., Special Publication No.6 (1971) 88 pp.
2. I. D. Brown, The Chemical Bond in Inorganic Chemistry: The Bond Valence Model. Oxford: University Press, (2001) 278pp. Paper back edition (2006)
3. I. D. Brown, C. H. Comber & W. Wilkinson The Hammered Silver Coins Produced at the Tower Mint During the Reign of Elizabeth I: Galata (2006) 84pp.
4. I.D.Brown and K. Poeppelmeier Eds, Bond Valences, Structure and Bonding volume 158, Springer-verlag Heidelberg, New York, (2014) 262pp.
5. I. D. Brown, The Chemical Bond in Inorganic Chemistry: The Bond Valence Model. Oxford: University Press, second edition (2016).

(b) Contributions to Books

1. I. D. Brown, "The Bond Valence Method: An Empirical Approach to Chemical Structure and Bonding", in M. O'Keeffe and A. Navrotsky (eds.), Structures and Bonding in Crystals. New York: Academic Press, 1981, II, Ch. 14, 1-30. Proceedings of the Conference on Structure and Bonding in Crystals, Castle Hot Springs, Arizona, 1980, sponsored by Arizona State University.
Reprinted in Landmark Papers Structural topology F.C.Hawthorne ed. Mineralogical Society of Great Britain and Ireland 2006.

2. I. D. Brown, W. R. Datars and R. J. Gillespie, "The Infinite Linear Chain Compounds $\text{Hg}_3\text{-}\text{AsF}_6$ and $\text{Hg}_3\text{-}\text{SbF}_6$ ", in *Extended Linear Chain Compounds*. New York and London: Plenum Press 1982, III, Ch. 1, 1-41.
3. I. D. Brown, "The Design of Crystallographic Databases", in S. R. Hall and T. Ashida (eds.), *Methods and Applications in Crystallographic Computing*. Oxford: Clarendon Press, 1984, pp. 375-386.
4. I. D. Brown, "Crystallographic Databases and the Chemical Computer", in P. S. Glasser (ed.), *The Role of Data in Scientific Progress*. Elsevier Science Publishers BV (North Holland), pp. 277-278.
5. R. J. Gillespie, I. D. Brown, W. R. Datars, K. R. Morgan, Z. Tun and P. K. Ummat, "The Preparation and Structure of Chain and Sheet Mercury Compounds", in R. J. Gillespie and P. Day (eds.), *Electrical and Magnetic Properties of Low-Dimensional Solids*. London, The Royal Society, 1985, pp. 105-114. (Royal Society Discussion Meeting, 31 May-1 June, 1984.)
6. I.D. Brown, S.M. Bradley and D. Altermatt, "Using the Inorganic Crystal Structure Database for the systematic examination of Inorganic Crystal Structures", J. Stezowski, Ed. *Molecular Structure: Chemical Reactivity and Biological Activity*, Internat. Union of Crystallography, Oxford University Press 1988, pp.513-519.
7. I.D.Brown, "Internal Strain in Perovskite Related Materials" P.K.Davies & R.S.Roth Eds, Washington: U.S.Department of Commerce, NIST Special Pub. 804 (1991) 471-483.
8. I.D.Brown, "Bond-Length - Bond-Valence Relationships in Inorganic Solids". Ch. 10 in "Structure Correlations" J.D.Dunitz & H-B.Buergi eds, Weinheim: VCH Publishers (1994) pp 405-429.
9. I.D.Brown, "The Bond Valence Method". Ch 2 in "Computer Modelling in Inorganic Solids" C.R.A.Catlow ed. SanDiego: Academic Press (1997) pp 23-53.
10. I.D.Brown, "*A Priori* Prediction of Crystal Structures". Proceedings of MRS Fall meeting 1996: Solid State Chemistry of Inorganic Materials. A.Jacobson, P.Davies, T.Vanderah and C.Torradi (eds)
11. S.R.Hall, F.H.Allen and I.D.Brown "Core Dictionary" Section 4.1 International Tables for Crystallography, Vol G, Definition and Exchange of Crystallographic Data. S.Hall and B. McMahon eds, International Union of Crystallography, 2002
12. I.D.Brown "Symmetry Dictionary" Section 4.7 International Tables for Crystallography, Vol G, Definition and Exchange of Crystallographic Data. S.Hall and B. McMahon eds, International Union of Crystallography, 2002

13. I.D.Brown "Bond Lengths in Inorganic Liquids and Solids" in Encyclopaedia of Inorganic Chemistry, ed R. H. Crabtree, John Wiley: Chichester. DOI: 10.1002/0470862106.ia267. Published 15 March 2006.
14. I.D.Brown "Historical Introduction" in Bond Valences, Structure and Bonding 159. Eds I.D.Brown and K.R.Poeppelmeier. Springer verlag.2015.
15. I.D.Brown "Bond valence theory" in Bond Valences, Structure and Bonding 159. Eds I.D.Brown and K.R.Poeppelmeier. Springer verlag.2015.
- 16 I.D.Brown "Bond valences in education: in Bond Valences, Structure and Bonding 159. Eds I.D.Brown and K.R.Poeppelmeier. Springer verlag.2015.

(c) Journal Articles (Scientific)

* Key papers marked with an asterisk

1958

1. I. D. Brown, "Determination of Triclinic Crystal Settings for a Single Crystal Diffractometer", Acta Cryst., 11 (1958), 510.

1960

2. I. D. Brown and J. D. Dunitz, "The Crystal Structure of the Cuprous Chloride Azomethane Complex", Acta Cryst., 13 (1960), 28-34.

1961

3. I. D. Brown and J. D. Dunitz, "The Crystal Structure of Diazoaminobenzene Copper(I)", Acta Cryst., 14 (1961), 480-485.

1964

4. B. H. Torrie, I. D. Brown and H. E. Petch, "Neutron Diffraction Determination of the Hydrogen Position in Natrolite", Can. J. Phys., 42 (1964), 229-240.
5. I. D. Brown, "The Crystal Structure of Lithium Hydrazinium Sulfate", Acta Cryst., 17 (1964), 654-660.
6. I. D. Brown, "The Crystal Structure of K_2TeBr_6 ", Can. J. Chem., 42 (1964), 2758-2767.

1966

7. A. K. Das and I. D. Brown, "A Refinement of the Crystal Structure of $(NH_4)_2TeBr_6$ and Cs_2TeBr_6 ", Can. J. Chem., 44 (1966), 939-943.

1967

8. I. D. Brown and M. M. Lim, "The Crystal Data and Transition Temperature of K_2PbCl_6 ", Can. J. Chem., 45 (1967), 678.

9. J. K. Brandon and I. D. Brown, "Crystal Structure of Cesium Methyl sulphonate, CsCH_3SO_3 ", *Can. J. Chem.*, 45 (1967), 1385-1390.

1968

10. J. K. Brandon and I. D. Brown, "An Accurate Determination of the Crystal Structure of Triclinic Potassium Dichromate, $\text{K}_2\text{Cr}_2\text{O}_7$ ", *Can. J. Chem.*, 46 (1968), 933-941.
11. I. D. Brown, D. B. Crump, R. J. Gillespie and D. P. Santry, "The Structure of the Se_4^{2+} Ion", *Chem. Comm.* (1968), 853-854.

1969

12. I. D. Brown, "Crystal Structure of NaNiO_6 , NaMnIO_6 and KMnIO_6 ", *Can. J. Chem.*, 47 (1969), 3779-3782.
13. A. K. Das and I. D. Brown, "A Low Temperature Phase of $(\text{NH}_4)_2\text{TeBr}_6$ ", *Can. J. Chem.*, 47 (1969), 4288-4289.

1970

14. *I. D. Brown and C. Calvo, "The Crystal Chemistry of Large Cation Dichromates, Pyrophosphates and Related Compounds with Stereochemistry $\text{X}_2\text{Y}_2\text{O}_7$ ", *J. Solid State Chem.*, 1 (1970), 173-179.
15. N. Ch. Panagiotopoulos and I. D. Brown, "Crystal Structure of Triclinic Rubidium Dichromate", *Can. J. Chem.*, 48 (1970), 537-543.
16. H. D. Grundy and I. D. Brown, "A Refinement of the Crystal Structure of K_2ReCl_6 , K_2ReBr_6 and K_2PtBr_6 ", *Can. J. Chem.*, 48 (1970), 1151-1154.

1971

17. I. D. Brown, D. B. Crump and R. J. Gillespie, "The Crystal Structure of Tetraselenium Bis(hydrogen disulphate)", *Inorg. Chem.*, 10 (1971), 2319-2323.

1972

18. N. Ch. Panagiotopoulos and I. D. Brown, "The Crystal Structure of $\gamma\text{-Na}_2\text{Cr}_2\text{O}_7$ ", *Acta Cryst.*, B28 (1972), 1352-1357.
19. N. Ch. Panagiotopoulos and I. D. Brown, "Sodium Rubidium Dichromate and Sodium Caesium Dichromate", *Acta Cryst.*, B28 (1972), 2880-2882.
20. M. R. Anderson and I. D. Brown, "Anomalous Neutron Scattering and $^6\text{Li}(\text{N}_2\text{H}_5)\text{SO}_4$ ", *Acta Cryst.*, A28 (1972), 663-665.

1973

21. N. Ch. Panagiotopoulos and I. D. Brown, "The Crystal Structure of $\beta\text{-Na}_2\text{Cr}_2\text{O}_7$ and the $\beta\text{-}\Gamma$ Phase Transition", *Acta Cryst.*, B29 (1973), 890-894.

22. *I. D. Brown and R. D. Shannon, "Empirical Bond-Strength Bond Length Curves for Oxides", *Acta Cryst.*, A29 (1973), 266-282.
Reprinted in *Landmark Papers Structural topology* F.C.Hawthorne ed. Mineralogical Society of Great Britain and Ireland 2006.
23. Kan Kun Wu and I. D. Brown, "Refinement of the Crystal Structure of CaCrF_5 ", *Mat. Res. Bull.*, 8 (1973), 593-598.
24. I.D. Brown, C. J. L. Lock and Cheng Wan, "Studies of β -Diketone Complexes of Rhenium(V). The Molecular and Crystal Structure of *trans*- Dichlorobis(pentane-2,4-dionato)rhenium(IV)", *Can. J. Chem.*, 51 (1973), 2073-2076.
25. E. A. Marseglia and I. D. Brown, "Lithium Hexafluorotitanate Dihydrate and Lithium Hexafluorostannate Dihydrate", *Acta Cryst.*, B29 (1973), 1352-1354.
26. Kang Kun Wu and I. D. Brown, "The Crystal Structure of Γ -Barium Orthotitanate, $-\text{Ba}_2\text{TiO}_4$ and the Bond Strength-Bond Curve of Ti-O", *Acta Cryst.*, B29 (1973), 2009-2012.
27. I. D. Brown, "The Prediction of the Stereochemistry of Polysulphate and Hydrogen Sulphate Ions", *Acta Cryst.*, B29 (1973), 1979-1983.
28. P. H. Stothart, I.D. Brown and T. Neilson, "The Crystal Structure of Dextrorotatory 2'-O-tetrahydropyranylyridine", *Acta Cryst.*, B29 (1973), 2237-2242.
29. M. R. Anderson, I. D. Brown and S. Vilminot, "The Crystal Structure of Lithium Hydrazinium Fluoroberyllate", *Acta Cryst.*, B29 (1973), 2625-2627.
30. S. Vilminot, M. R. Anderson and I. D. Brown, "The Crystal Structure of Lithium Hydroxylammonium Sulphate", *Acta Cryst.*, B29 (1973), 2628-2630.
31. M. R. Anderson, S. Vilminot and I. D. Brown, "The Crystal Structure of Hydrazinium Fluoroberyllate", *Acta Cryst.*, B29 (1973), 2961-2962.

1974

32. I.D. Brown, B. D. Cutforth, C. G. Davies, R. J. Gillespie, P. R. Ireland and J. E. Vekris, "Alchemist's Gold, $\text{Hg}_{2.68}\text{AsF}_6$; an X-ray Crystallographic Study of a Novel Disordered Mercury Compound Containing Metallically Bonded Infinite Cations", *Can. J. Chem.*, 52 (1974), 791-793.
33. M. R. Anderson and I. D. Brown, "A Refinement of the Crystal Structure of Lithium Hydrazinium Sulphate by X-ray Diffraction", *Acta Cryst.*, B30 (1974), 831-832.
34. I. D. Brown, C. J. L. Lock and C. Wan, "Studies of Γ -Diketone Complexes of Rhenium. VI. The Crystal and Molecular Structure of *cis*-dichloropentane- 2,4-dionato-*trans*-

bis(triphenylphosphine)rhenium(III)", *Can. J. Chem.*, 52 (1974), 1704-1708.

35. *I. D. Brown, "Bond Valence as an Aid to Understanding the Stereochemistry of O and F Complexes of Sn(II), Sb(III), Te(IV), I(V) and Xe(VI)", *J. Solid State Chem.*, 11 (1974), 214-233.

1975

36. Kang Kun Wu and I. D. Brown, "A Neutron Diffraction Study of $\text{Na}_2\text{CO}_3\cdot\text{H}_2\text{O}$ ", *Acta Cryst.*, B31 (1975), 890-892.
37. M. R. Anderson and I. D. Brown, "A Neutron Diffraction Refinement of Lithium Hydrazinium Fluoroberyllate, $\text{LiN}_2\text{H}_5\text{BeF}_4$ ", *Acta Cryst.*, B31 (1975), 1500-1501.
38. A. Sequeria, I. Bernal, I. D. Brown and R. Faggiani, "The Structure of $\text{Li}(\text{H}_2\text{O})_3\text{ClO}_4$ -- An X-ray and Neutron Diffraction Study", *Acta Cryst.*, 31 (1975), 1735-1739.
39. I. D. Brown and R. Faggiani, "Refinement of the Structure of Lithium Chromate Li_2CrO_4 ", *Acta Cryst.*, B31 (1975), 2364-2365.

1976

40. *I. D. Brown, "On the Geometry of O-H...O Hydrogen Bonds", *Acta Cryst.*, A32 (1976), 24-31.
41. P. Boldrini, I. D. Brown, R. J. Gillespie, P. R. Ireland, W. Luk, D. R. Slim and J. E. Vekris, "The Preparation and Crystal Structures of Ditetelluriumoctaselenium bis(hexafluoroarsenate)sulfurdioxide $\text{Te}_2\text{Se}_8(\text{AsF}_6)_2\text{SO}_2$ and 'Tetratelluriumhexaselenium' bis(hexafluoroarsenate) $\text{Te}_{3.7}\text{Se}_{6.3}(\text{AsF}_6)_2$ ", *Inorg. Chem.*, 15 (1976), 765-770.
42. P. M. Bailey, B. E. Mann, I. D. Brown and P. M. Maitlis, "Dihydropentalenes from the Palladium(II)-induced cyclotetramerisation of Acetylenes", *J. Chem. Soc., Chem. Comm.* (1976), 238-239.
43. I. D. Brown and Kang Kun Wu, "Empirical Parameters for Calculating Cation Oxygen Bond-Valences", *Acta Cryst.*, B32 (1976), 1957-1959.
44. *I. D. Brown, "Hydrogen Bonding in Perchloric Acid Hydrates", *Acta Cryst.*, A32 (1976), 786-792.

1977

45. M. Natarajan Iyer, R. Faggiani and I. D. Brown, "Rubidium Cadmium Bromide", *Acta Cryst.*, B33 (1977), 127-128.
46. M. Natarajan Iyer, R. Faggiani and I. D. Brown, "Rubidium Cadmium Iodide Hydrate", *Acta Cryst.*, B33 (1977), 129-130.

47. *I. D. Brown, "Predicting Bond Lengths in Inorganic Crystals", *Acta Cryst B*33 (1977), 1305-1310.

48. I. D. Brown, H. E. Howard-Lock and M. Natarajan, "The Crystal Structure and Polarized Raman Spectrum of $\text{Rb}_2\text{Ag}_3\text{I}_3$ ", *Can. J. Chem.*, 55 (1977), 1511-1514.

1978

49. R. Faggiani and I. D. Brown, "Thallium(III) Trinitrate Trihydrate", *Acta Cryst.*, B34 (1978), 1657-1676.

50. M. Natarajan, H. E. Howard-Lock and I. D. Brown, "The Crystal Structure of RbCdCl_3 and the Polarized Raman Spectra of RbCdX_3 ($X = \text{Cl}, \text{Br}$)", *Can. J. Chem.*, 56 (1978), 1192-1195.

51. I. D. Brown, "Stereochemistry of Chromium Complexes: A Bibliographic Listing", *Coord. Chem. Revs.*, 26 (1978), 161-206.

52. *I. D. Brown, "Bond Valences -- A Simple Structural Model for Inorganic Chemistry", *Chem. Soc. Rev.*, 7 (1978), 359-376.

53. R. Faggiani and I. D. Brown, "Thallium(III) Triacetate", *Acta Cryst.*, B34 (1978), 2845-2846.

54. R. Faggiani, J. P. Johnson, I. D. Brown and T. Birchall, "Bis(-mono-chloroacetato-O,O')-bis[dimethyltin(IV)]", *Acta Cryst.*, B34 (1978), 3742-3743.

55. R. Faggiani, J. P. Johnson, I. D. Brown and T. Birchall, "Di-3oxo-bis(-trifluoroacetato-O,O')-bis(trifluoroacetato) -tetrakis[dimethyl tin(IV)]", *Acta Cryst.*, B34 (1978), 3743-3745.

1979

56. M. Natarajan, R. Faggiani and I. D. Brown, "Dilithium Tetraborate $\text{Li}_2\text{B}_4\text{O}_7$ ", *Crystal Struct. Comm.*, 8 (1979), 367-370.

57. R. Faggiani, J. P. Johnson, I. D. Brown and T. Birchall, "Bis(-trifluoro-acetato-O,O')-bis[dimethyltin(IV)]", *Acta Cryst.*, 35 (1979), 1227-1229.

1980

58. *I. D. Brown, "A Structural Model for Lewis Acids and Bases. An Analysis of the Structural Chemistry of the Acetate and Trifluoroacetate Ions", *J. Chem. Soc. Dalton Transactions* (1980), 1118-1123.

59. I. D. Brown, "On the Prediction of Angles in Tetrahedral Complexes and Pseudotetrahedral Complexes with Stereoactive Lone Pairs", *J. Amer. Chem. Soc.*, 102 (1980), 2112-2113.

60. *I. D. Brown and R. Faggiani, "Crystal Structure of Thallium(I) Tetra-acetatohallate(III): When is the Lone Pair of Electrons on Thallium(I) Stereoactive?", *Acta Cryst.*, B36 (1980),

1802-1806.

61. J. E. Greedan, D. C. Hewitt, R. Faggiani and I. D. Brown, "Crystal Structure and Hydrogen Bonding in $\text{Cs}_2\text{FeCl}_5\text{H}_2\text{O}$ ", *Acta Cryst.*, B36 (1980), 1927-1929.

1982

62. O. Slupecki and I. D. Brown, "Bond-Valence-Bond-Length Parameters for Bonds Between Cations and Sulfur", *Acta Cryst.*, B38 (1982), 1078-1079.
63. C. R. Gopinath and I. D. Brown, "Normal Coordinate Analysis of the Raman and Infrared Vibrations of the Alpha Phases of Re_2O_3 and $\text{Re}_2\text{O}_2\text{S}$ ", *J. Raman Spect.*, 12 (1982), 278-280.
64. Z. Tun and I. D. Brown, "Hydrogen Bonding in $(\text{NH}_4)_2\text{TiF}_6$ ", *Acta Cryst.*, B38 (1982), 1792-1794.
65. J. D. Garrett, J. E. Greedan, R. Faggiani, S. Carbotte and I. D. Brown, "Single Crystal Growth and Structure Determination of $\text{Ag}_{16}\text{I}_{12}\text{P}_2\text{O}_7$ ", *J. Solid State Chem.*, 42 (1982), 183-190.
66. Z. Tun and I. D. Brown, "The Crystal Structure of $\text{Hg}_{3\approx}\text{SbF}_6$ ", *Acta Cryst.*, B38 (1982), 2321-2324.
67. R. Faggiani and I. D. Brown, "Thallium Triacetate Monohydrate", *Acta Cryst.*, B38 (1982), 2473-2475.

1983

68. I. D. Brown, "The Standard Crystallographic File Structure", *Acta. Cryst.*, A39 (1983), 216-224.
69. *G. Bergerhoff, R. Hundt, R. Sievers and I. D. Brown, "The Inorganic Crystal Structure Database", *J. Chem. Info. Comp. Sci.*, 23 (1983), 66-69.

1984

70. Z. Tun, I. D. Brown and P. K. Ummat, "The Room Temperature Structures of Mercury Niobium Fluoride, $\text{Hg}_{3\approx}\text{NbF}_6$ and Mercury Tantalum Fluoride, $\text{Hg}_{3\approx}\text{TaF}_6$ ", *Acta Cryst.*, C40 (1984), 1301-1303.
71. I. D. Brown, R. J. Gillespie, K. R. Morgan, Z. Tun and P. K. Ummat "The Preparation and Structure of Hg_3NbF_6 and Hg_3TaF_6 : Mercury layer compounds", *Inorg. Chem.*, 23 (1984), 4506-4508.

1985

72. *I. D. Brown, W. R. Datars, R. J. Gillespie, K. R. Morgan, Z. Tun and P. K. Ummat, "Preparation, Structure and Properties of Mercury Layer and Chain Compounds", *J. Solid State Chem.* 57 (1985) 34-42.

73. I.D. Brown "The Structure Crystallographic File Structure - 84" *Acta Cryst.*, A41 (1985), 399.
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