



## Curriculum vitae Europass

### Personal Information

Surname, First name **RAȚ, Ciprian-Ionuț**  
Address 11 Arany Janos, 400028 Cluj-Napoca, Romania  
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E-mail ciprian.rat@ubbcluj.ro  
Nationality Romanian  
Birthdate 13.07.1981

### Work experience

Time span 2015 - present  
Main activities and responsibilities Teaching / Research  
Position Lecturer  
Name and address of the employer Babeș-Bolyai University, 1 Mihail Kogălniceanu, 400079 Cluj-Napoca  
Sector Higher education and research  
Time span 2008 - present  
Main activities and responsibilities Team member / Project director  
Position Scientific researcher III  
Name and address of the employer Babeș-Bolyai University, 1 Mihail Kogălniceanu, 400079 Cluj-Napoca  
Sector Research

### Research projects

Time span 01.10.2015 - 30.11.2017  
Main activities and responsibilities Project director  
Title and project code Polyfluorinated *m*-terphenyl substituents in gold, antimony and bismuth organometallic chemistry; TE0906 / 2015  
Funding program CNCS; PNII – Human resources – Young Research Teams Grants / PN-II-RU-TE-2014  
Budget aprox. 121331 eur  
Time span 01.11.2013 - 30.11.2014  
Main activities and responsibilities Project director  
Title and project code Applications of Stibine/Boranes and Bismuthines/Boranes Systems; GTC\_34065 / 2013  
Funding program Babeș-Bolyai University; Grants for young researchers / GTC competition 2013  
Budget aprox. 4412 eur  
Time span 01.08.2010 - 31.10.2013  
Main activities and responsibilities Project director  
Title and project code Bulky aryl groups in metals chemistry (antimony, bismuth, nickel, palladium); TE295 / 2010  
Funding program CNCSIS; PNII – Human resources – Young Research Teams Grants / PN-II-RU-TE-2009  
Budget aprox. 165451 eur

Time span	01.05.2008 - 30.04.2010
Main activities and responsibilities	Project director
Title and project code	Organometallic hydrides and compounds with multiple metal-metal bonds of heavy main group elements – synthesis and theoretical investigation –; RP 2 / January 2008
Funding program	CNCSIS; PNII – Human resources – Research projects for repatriation of researchers / PN-II-RU-RP-2008
Budget	aprox. 112069 eur
<b>Teaching experience</b>	
Laboratory courses	General chemistry for biology students (in English) General chemistry Inorganic chemistry Metals chemistry Advanced organometallic chemistry
Seminars	General chemistry Structural analysis Spectroscopic properties of coordination and organometallic compounds
Courses	Inorganic structural analysis Structural analysis Spectroscopic properties of coordination and organometallic compounds Coordination chemistry Catalysis (homogenous)
Research	Supervisor of the experimental activities of the undergraduate and master students in research stay in organometallic chemistry research laboratories
BSc and MSc theses coordinated in collaborations with other member of the teaching staff	BSc Theses: 2010 – 2, 2012 – 1, 2013 – 1, 2014 – 2, 2015 – 2, 2016 – 1, 2017 – 1 MSc Theses: 2012 – 2, 2014 – 1, 2015 – 3, 2017 – 1
<b>Education and training</b>	
Time span	2004 - 2007
Qualification	Dr. (Dr. rer. nat.)
Subjects	Synthesis and characterization of antimony and bismuth organometallic compounds with bulky substituents
Name of the organization	Universität Bremen, Fachbereich 02: Biologie/Chemie
Time span	2000 - 2004
Qualification	Graduation certificate
Name of the organization	Babeş-Bolyai University, Department of Teacher Training
Time span	2000 - 2004
Qualification	Bachelor of science
Subjects	Chemistry and physics
Name of the organization	Babeş-Bolyai University, Faculty of Chemistry and Chemical Engineering
Time span	23.05.2016 - 25.05.2016
Qualification	Radioprotection course graduation certificate endorsed by CNCAN and organized by
Name of the organization	ATVA in Cluj-Napoca
Time span	31.08.2014 - 06.09.2014
Qualification	Methods in Molecular Energy Research summer school attendance certificate
Name of the organization	Max Planck Institut für Chemische Energie Konversion, Mülheim an der Ruhr
Time span	18.02.2011 - 25.02.2011

Qualification Radioprotection course graduation certificate endorsed and organized by  
Name of the organization 1 Decembrie 1918 University, Alba Iulia

### Personal skills

Mother language **Romanian**

Other languages **English, German, French**

	Understanding				Speaking				Writing	
	Listening		Reading		Spoken interaction		Spoken production		Writing	
English	C2	Proficient user	C1	Proficient user	C2	Proficient user	C1	Proficient user	B2	Proficient user
German	B1	Independent user	A2	Basic user	A1	Basic user	A1	Basic user	A1	Basic user
French	A2	Basic user	A2	Basic user	A1	Basic user	A1	Basic user	A1	Basic user

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user

(\*) Common European Framework of Reference for Languages

Organizational / managerial skills Managerial experience accumulated in four research projects with national funding (*vide supra*), two involving the coordination of a team  
Team member of research projects with national funding: ID2052 / 2009, ID0933 / 2011, PCCE0050-P3 / 2010, PCCA1226 / 2013, PCE0857 / 2016  
Coordination of research activity of the students, master students and PhD students  
Secretary of the Admission Committee of the Faculty of Chemistry and Chemical Engineering (2016, 2017)

Technical skills Operator of the Bruker NMR spectrometers (2004 – present)  
Operator of the HRMS Thermo Scientific LTQ Orbitrap XL spectrometer (2012 – present)

Digital skills Operating systems: Windows, Fedora, OpenSuse  
Microsoft Office, Open Office, LaTeX, ChemOffice  
Theoretical chemistry software: Gaussian, GAMESS, ADF, ORCA  
Spectroscopic data processing software: Mestec, MestreNova, TopSpin, XWinNMR, Xcalibur, MASPEC, Diamond, Spekwin, SpectraGryph  
X-ray diffraction data analysis software: SHELX, WinGX, ShelXe  
Programming languages (Basic user): HTML, CSS, Java

Driving license B category

### Additional information

ResearcherID C-3122-2009  
Scopus Author ID 9746141300  
ORCID 0000-0002-1154-8130

Possessor of CNCAN issued exercising permit, level 2  
Member of the Romanian Chemical Society  
Secretary of the Romanian Chemical Society, Cluj-Napoca branch  
Member of the coordination commissions of the PhD students in the Chemical Doctoral School, Doctoral Studies Institute, Babeş-Bolyai University  
Member of the Chemistry Commission of the National Research Council (CNCS) (2011 – 2012)

### Annexes

Publication list – 2012 – 2017 – included in Annex 1

Cluj-Napoca  
05.12.2017

Lector Dr. Ciprian I. Raţ

**Lector Dr. Ciprian I. Raț**

Author identifiers / Identificatori autor

ResearcherID: **C-3122-2009**  
 Scopus Author ID: **9746141300**  
 ORCID: 0000-0002-1154-8130

**Publication list / Lista de publicații****A. Book chapters / Capitole în cărți**

1. Breunig, H.; Raț, C. I. In *Comprehensive Inorganic Chemistry II*, 2<sup>nd</sup> ed.; Jan Reedijk, E., Poepelmeier, K., Eds.; Elsevier: Amsterdam, 2013; pp 151–178.  
DOI: 10.1016/B978-0-08-097774-4.00107-8

**B. Scientific articles / Articole științifice**

1. Synthesis and characterization of diorganoantimony(III) and -bismuth(III) halides with 2-(Et<sub>2</sub>NCH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub> and 2-(*i*-Pr<sub>2</sub>NCH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub> substituents.  
Chircă, I.; Silvestru, C.; Breunig, H. J.; Raț, C. I.  
*Inorg. Chim. Acta* **2017**, *in press*.  
DOI: 10.1016/j.ica.2017.11.021
2. Heterocyclic bismuth(III) compounds with transannular N→Bi interactions as catalysts for the oxidation of thiophenol to diphenyldisulfide.  
Toma, A. M.; Raț, C. I. Pavel, O. D.; Hardacre, C.; Rüffer, T.; Lang, H.; Mehring, M.; Anca Silvestru, A.; Pârvulescu, V. I.  
*Catal. Sci. Technol.* **2017**, *7*, 5343-5353.  
DOI: 10.1039/C7CY00521K
3. Mapping the Trajectory of Nucleophilic Substitution at Silicon using a Peri-Substituted Acenaphthyl Scaffold.  
Hupf, E.; Olaru, M.; Raț, C. I.; Hübschle, C. B.; Lork, E.; Grabowsky, S.; Mebs, S.; Beckmann, J.  
*Chem. Eur. J.* **2017**, *23*, 10568-10579.  
DOI: 10.1002/chem.201700992
4. Synthesis and structure of [Na(15-crown-5)][Ph<sub>2</sub>P(S)OB(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>] and [Na(15-crown-5)<sub>2</sub>][Ph<sub>2</sub>P(S)O· ·HO(S)PPh<sub>2</sub>].  
Kather, R.; Lork, E.; Raț, C.-I.; Silvestru, C.; Beckmann, J.  
*Main Group Met. Chem.* **2017**, *40*, 47-51.  
DOI: 10.1515/mgmc-2017-0016
5. Bismuth(III) cyclic compounds with transannular S→Bi interactions. An experimental and theoretical approach.  
Toma, A.; Raț, C. I.; Silvestru, A.; Rüffer, T.; Lang, H.; Mehring, M.  
*J. Organomet. Chem.* **2016**, *806*, 5-11.  
DOI: 10.1016/j.jorganchem.2016.01.019
6. 19-Tungstodiarsenate(III) Functionalized by Organoantimony(III) Groups: Tuning the Structure-Bioactivity Relationship.  
Yang, P.; Lin, Z.; Alfaro-Espinoza, G.; Ullrich, M. S.; Raț C. I.; Silvestru, C; Kortz, U.  
*Inorg. Chem.* **2016**, *55*, 251-258.

DOI: 10.1021/acs.inorgchem.5b02189

7. Hypervalent diorganoantimony(III) fluorides via diorganoantimony(III) cations – a general method of synthesis.  
Preda, A. M.; Raț, C. I.; Silvestru, C.; Lang, H.; Ruffer, T.; Mehring, M.  
*RSC Adv.* **2015**, *5*, 99832-99840.  
DOI: 10.1039/C5RA21788A
8. Bis(4-pyridyl)mercury – a new linear tecton in crystal engineering: coordination polymers and co-crystallization processes.  
Mocanu, T.; Raț, C. I.; Maxim, C.; Shova, S.; Tudor, V.; Silvestru, C.; Andruh, M.  
*CrystEngComm* **2015**, *17*, 5474-5487.  
DOI: 10.1039/C5CE00388A
9. Synthesis and Characterization of 2-[Mes(Me)NCH<sub>2</sub>]C<sub>6</sub>H<sub>4</sub>Br and 2-[Mes{(O)CH}NCH<sub>2</sub>]C<sub>6</sub>H<sub>4</sub>Br – precursors for novel one pendant arm ligands.  
Strîmb, G.; Raț, C. I., Silvestru, C.  
*Rev. Roum. Chim.* **2015**, *60*, 651-657.  
DOI: n.a.
10. A general route to monoorganopnicogen(III) (M = Sb, Bi) compounds with a pincer (N,C,N) group and oxo ligands.  
Strîmb, G.; Pöllnitz, A.; Raț, C. I.; Silvestru, C.  
*Dalton Trans.* **2015**, *44*, 9927-9942.  
DOI: 10.1039/C5DT00603A
11. Synthesis and Structural Characterization of Substituted Phenols with a *m*-Terphenyl Backbone 2,4,6-R<sub>3</sub>C<sub>6</sub>H<sub>2</sub>OH (R = 2,4,6-Me<sub>3</sub>C<sub>6</sub>H<sub>2</sub>, Me<sub>5</sub>C<sub>6</sub>).  
Șolea, A. B.; Olaru, M.; Silvestru, C.; Raț, C. I.  
*Z. Naturforsch., B: Chem. Sci.* **2015**, *70*, 77-81.  
DOI: 10.1515/znb-2014-0180
12. Palladium(II) complexes with chiral organoantimony(III) ligands. Solution behaviour and solid state structures.  
Copolovici, D.; Isaia, F.; Breunig, H. J.; Raț, C. I.; Silvestru, C.  
*RSC Advances*, **2014**, *4*, 26569-26576.  
DOI: 10.1039/C4RA03482A
13. Polyfluorinated Functionalized *m*-Terphenyls. New Substituents and Ligands in Organometallic Synthesis.  
Olaru, M.; Beckmann, J.; Raț, C. I.  
*Organometallics* **2014**, *33*, 3012-3020.  
DOI: 10.1021/om500244y
14. New group 12 metal complexes with anionic [{OP(OEt)<sub>2</sub>}(SePPh<sub>2</sub>)N]<sup>-</sup> ligands.  
Toth, A.; Lupan, A.; Raț, C. I.; Silvestru, C.; Silvestru, A.  
*Rev. Roum. Chim.* **2013**, *58*, 393-398.  
DOI: n.a.
15. Organoantimony(III) and -bismuth(III) hypervalent pseudohalides. An experimental and theoretical study.  
Toma, A.; Raț, C. I.; Silvestru, A.; Ruffer, T.; Lang, H.; Mehring, M.  
*J. Organomet Chem.* **2013**, *745-746*, 71-79.  
DOI: 10.1016/j.jorganchem.2013.06.044
16. Formation and Structure of (CO)<sub>4</sub>Mo(Et<sub>4</sub>Sb<sub>2</sub>)<sub>2</sub>.

- Breunig, H. J.; Lork, E.; Moldovan, O.; Raț, C. I.  
*Z. Naturforsch., B: Chem. Sci.* **2013**, *68*, 87-90.  
DOI: 10.5560/znb.2013-2231
17. Hypervalent organoantimony and -bismuth compounds with pendant arm ligands.  
Raț, C. I.; Silvestru, C.; Breunig, H. J.  
*Coord. Chem. Rev.* **2013**, *257*, 818-879.  
DOI: 10.1016/j.ccr.2012.07.026
18. Organoantimony(III) compounds containing (imino)aryl ligands of the type 2-(RN=CH)C<sub>6</sub>H<sub>4</sub>(R=2',4',6'-Me<sub>3</sub>C<sub>6</sub>H<sub>2</sub>, 2',6'-(<sup>i</sup>Pr<sub>2</sub>C<sub>6</sub>H<sub>3</sub>): bromides and chalcogenides.  
Preda, A. M.; Raț, C. I.; Silvestru, C.; Breunig, H. J.; Lang, H.; Ruffer, T.; Mehring, M.  
*Dalton Trans.* **2013**, *42*, 1144-1158.  
DOI: 10.1039/C2DT32494F
19. (2,4,6-Trimethylphenyl)boronic acid-triphenylphosphine oxide (1/1).  
Roșca, S.; Olaru, M.; Raț, C. I.  
*Acta Crystallogr., Sect. E: Struct. Rep. Online* **2012**, *68*, o31.  
DOI: 10.1107/s1600536811051609
20. Cryptands and bismacrocycles with cyanuric and isocyanuric units: synthesis and structural investigations.  
Pop, F.; Socaci, C.; Terec, A.; Condamine, E.; Varga, R. A.; Raț, C. I.; Roncali, J.; Grosu, I.  
*Tetrahedron* **2012**, *68*, 8581-8588.  
DOI: 10.1016/j.tet.2012.07.100
21. Synthesis and stereochemistry of new spiro[5.5]undecane derivatives with 1,3-dioxane, 1,3-dithiane, or 1,3-oxathiane rings.  
Mihiș, A.; Golban, L. M.; Raț, C. I.; Bogdan, E.; Terec, A.; Grosu, I.  
*Struct. Chem.* **2012**, *23*, 61-69.  
DOI: 10.1007/s11224-011-9848-2
22. Organomercury(II) and -tellurium(II) compounds with the "pincer" ligand 2,6-[O(CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>NCH<sub>2</sub>]<sub>2</sub>C<sub>6</sub>H<sub>3</sub> – stabilization of an unusual organotellurium(II) cationic species  
Beleagă, A.; Bojan, V. R.; Pöllnitz, A.; Raț, C. I.; Silvestru, C.  
*Dalton Trans.* **2011**, *40*, 8830-8838.  
DOI: 10.1039/c1dt10414d
23. Synthesis and structure of new crown ethers with 1,4-phenylene and 1,4-naphthylene units.  
Cîrcu, M.; Petran, A.; Gâz, A. S.; Bogdan, E.; Terec, A.; Raț, C. I.; Varga, R. A.; Grosu, I.  
*J. Mol. Struct.* **2011**, *996*, 17-23.  
DOI: 10.1016/j.molstruc.2011.01.052
24. Metallophilic Bonding and Agostic Interactions in Gold(I) and Silver(I) Complexes Bearing a Thiotetrazole Unit.  
Ilie, A.; Raț, C. I.; Scheutzwow, S.; Kiske, C.; Lux, K.; Klapotke, T. M.; Silvestru, C.; Karaghiosoff, K.  
*Inorg. Chem.* **2011**, *50*, 2675-2684.  
DOI: 10.1021/ic102595d
25. Formation of [Cp<sub>2</sub>TiSbMe<sub>2</sub>]<sub>2</sub>, [Cp<sub>2</sub>TiSb(SiMe<sub>3</sub>)<sub>2</sub>]<sub>2</sub> and [Cp<sub>2</sub>TiCl]<sub>2</sub>·2Mes<sub>4</sub>Sb<sub>2</sub>.  
Breunig, H.J.; Moldovan, O.; Nema, M.; Rosenthal, U.; Raț, C. I.; Varga, R. A.  
*J. Organomet. Chem.* **2011**, *696*, 523-526.  
DOI: 10.1016/j.jorganchem.2010.09.007
26. 2'-Iodo-2,2'',3,3'',4,4'',5,5'',6,6''-decamethyl-1,1':3,1''-terphenyl chloroform monosolvate.  
Olaru, M.; Roșca, S.; Raț, C. I.

- Acta Crystallogr., Sect. E: Struct. Rep. Online* **2011**, 67, o213.  
DOI: 10.1107/s1600536810052736
27. Syntheses and Structures of  $[\text{nBu}_4\text{N}][\text{nBu}_2\text{SbCl}_4]$  and  $[\text{Et}_3\text{SbMe}]_2[(\text{MeSbCl}_3)_2]$ .  
Breunig, H. J.; Koehne, T.; Lork, E.; Moldovan, O.; Poveleit, J.; Raț, C. I.  
*Z. Naturforsch., B: Chem. Sci.* **2010**, 65, 1245-1248.  
DOI: 10.1515/znb-2010-1011
28. 3,5-Dibromo-2',3',4',5',6'-pentamethyl-1,1-biphenyl.  
Roșca, S.; Olaru, M.; Raț, C. I., Silvestru, C.  
*Acta Crystallogr., Sect. E: Struct. Rep. Online* **2010**, 66, o1248.  
DOI: 10.1107/S1600536810015308
29. New chiral organoantimony(III) compounds containing intramolecular N→Sb interactions – solution behaviour and solid state structures.  
Copolovici, D.; Bojan, V. R.; Raț, C. I.; Silvestru, A.; Breunig, H. J.; Silvestru, C.  
*Dalton Trans.* **2010**, 39, 6410-6418.  
DOI: 10.1039/c003318a
30. Reactions of Distibanes with  $[\text{Fe}_2(\text{CO})_9]$ : Synthesis, Structure and DFT Calculations of  $[(\text{Et}_2\text{Sb})_4\text{Fe}_4(\text{CO})_{14}]$ ,  $[(\text{nPr}_2\text{Sb})_4\text{Fe}_3(\text{CO})_{10}]$ ,  $[\{(\text{Me}_3\text{SiCH}_2)_2\text{Sb}\}_4\text{Fe}_2(\text{CO})_6]$ , and  $[2-(\text{Me}_2\text{NCH}_2)\text{C}_6\text{H}_4\text{SbFe}_2(\text{CO})_8]$ .  
Breunig, H. J.; Lork, E.; Moldovan, O.; Raț, C. I.  
*Z. Anorg. Allg. Chem.* **2010**, 636, 1090-1094.  
DOI: 10.1002/zaac.200900547
31. Dichlorido[(Z)-4-(2,6-diisopropylanilino)pent-3-en-2-one]dimethyltin(IV).  
Raț, C.; Comșa, C., Silvestru, C.  
*Acta Crystallogr., Sect. E: Struct. Rep. Online* **2010**, 66, m130.  
DOI: 10.1107/S1600536809055810
32. Chloridobis{2-(dimethylamino)methyl phenyl}antimony(III).  
Olaru, M.; Roșca, S.; Raț, C. I.; Silvestru, C.  
*Acta Crystallogr., Sect. E: Struct. Rep. Online* **2009**, 65, m1383-m1384.  
DOI: 10.1107/s1600536809041890
33. 2-(4-Methylpiperazin-1-ylmethyl)phenyl diphenylphosphane.  
Covaci, A.; Raț, C. I.; Silvestru, C.  
*Acta Crystallogr., Sect. E: Struct. Rep. Online* **2009**, 65, o3193.  
DOI: 10.1107/S1600536809049526
34. Polynuclear titanocene complexes with antimony ligands:  $[(\text{Cp}_2\text{Ti})_2(\text{SbR}_2)_2]$  (R = Et),  $[(\text{Cp}_2\text{Ti})_3(\text{SbR})_3\text{Sb}]$  [R = 2-( $\text{Me}_2\text{NCH}_2$ ) $\text{C}_6\text{H}_4$ ] and  $[(\text{Cp}_2\text{Ti})_5(\text{SbR})_2\text{Sb}_7]$  (R =  $\text{Me}_3\text{SiCH}_2$ ).  
Breunig, H. J.; Lork, E.; Moldovan, O.; Raț, C. I.; Rosenthal, U.; Silvestru, C.  
*Dalton Trans.* **2009**, 5065-5067.  
DOI: 10.1039/b904846d
35. Novel Sterically Congested Monoorganobismuth(III) Compounds: Synthesis, Structure, and Bismuth–Arene  $\pi$  Interaction in  $\text{ArBiXY}$  (X, Y = Br, I, OH, 2,6-Mes<sub>2</sub>-4-*t*-Bu-C<sub>6</sub>H<sub>2</sub>PHO<sub>2</sub>).  
Breunig, H. J.; Haddad, N.; Lork, E.; Mehring, M.; Mügge, C.; Nolde, C.; Raț, C. I.; Schürmann, M.  
*Organometallics* **2009**, 28, 1202-1211.  
DOI: 10.1021/om800934c
36. Syntheses, crystal structures and DFT studies of  $[\text{Me}_3\text{EM}(\text{CO})_5]$  (E = Sb, Bi; M = Cr, W), *cis*- $[(\text{Me}_3\text{Sb})_2\text{Mo}(\text{CO})_4]$ , and  $[\text{tBu}_3\text{BiFe}(\text{CO})_4]$ .  
Breunig, H. J.; Borrmann, T.; Lork, E.; Moldovan, O.; Raț, C. I.; Wagner, R. P.

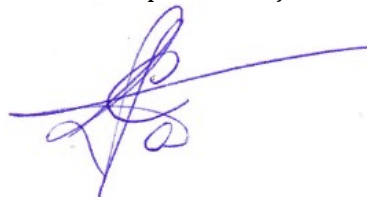
- J. Organomet. Chem.* **2009**, *694*, 427-432.  
DOI: 10.1016/j.jorganchem.2008.11.022
37. New organophosphorus ligands with SPNSO skeleton and their copper(I) complexes: Crystal and molecular structures of (SPPPh<sub>2</sub>)(O<sub>2</sub>SPh)NH, [(Ph<sub>3</sub>P)<sub>2</sub>Cu{(SPPPh<sub>2</sub>)(O<sub>2</sub>SMe)N}] and [(Ph<sub>3</sub>P)<sub>2</sub>Cu{(SPPPh<sub>2</sub>)(O<sub>2</sub>SC<sub>6</sub>H<sub>4</sub>Me-4)N}]·0.5C<sub>6</sub>H<sub>5</sub>CH<sub>3</sub>.  
Pop, A.; Rotar, A.; Raț, C.; Silvestru, A.  
*Inorg. Chim. Acta* **2008**, *361*, 255-261.  
DOI: 10.1016/j.ica.2007.07.023
38. Dimeric versus monomeric nickel(II) complexes with tetraorganodichalcogenoimidodiphosphinato ligands: Crystal structures of Ni<sub>2</sub>[(OPPh<sub>2</sub>)<sub>2</sub>N]<sub>4</sub>·CH<sub>2</sub>Cl<sub>2</sub>, Ni[(OPPh<sub>2</sub>)<sub>2</sub>N]<sub>2</sub>(DMF)<sub>2</sub>·2H<sub>2</sub>O and [KNi[(SPPPh<sub>2</sub>){OP(OEt)<sub>2</sub>N}]<sub>3</sub>]<sub>2</sub>.  
Cristurean, A.; Irisli, S.; Marginean, D.; Raț, C.; Silvestru, A.  
*Polyhedron* **2008**, *27*, 2143-2150.  
DOI: 10.1016/j.poly.2008.04.006
39. Syntheses of a stable tristibine and of related antimony compounds with the 2,6-dimesitylphenyl (Dmp) substituent.  
Breunig, H. J.; Lork, E.; Moldovan, O.; Raț, C. I.  
*J. Organomet. Chem.* **2008**, *693*, 2527-2534.  
DOI: 10.1016/j.jorganchem.2008.04.038
40. Syntheses and crystal structures of [<sup>t</sup>Bu<sub>3</sub>SbCr(CO)<sub>5</sub>], [<sup>t</sup>Bu<sub>3</sub>BiM(CO)<sub>5</sub>] (M = Cr, W), and [<sup>t</sup>Bu<sub>3</sub>BiMnCp'(CO)<sub>2</sub>] (Cp' = η<sup>5</sup>-C<sub>5</sub>H<sub>4</sub>CH<sub>3</sub>).  
Breunig, H. J.; Lork, E.; Raț, C. I.; Wagner, R. P.  
*J. Organomet. Chem.* **2007**, *692*, 3430-3434.  
DOI: 10.1016/j.jorganchem.2007.04.009
41. The complex BiCl<sub>3</sub>·CH<sub>3</sub>C<sub>6</sub>H<sub>5</sub>.  
Breunig, H. J.; Lork, E.; Raț, C.  
*Z. Naturforsch., B: Chem. Sci.* **2007**, *62*, 1224-1226.  
DOI: 10.1515/znb-2007-0920
42. 1,1,1,1,4,4,4,4,-Octacarbonyl-2,2,3,3,5,5,6,6-octamethyl-cyclo-2,3,5,6,-tetraantimony-1-dichromium.  
Breunig, H. J.; Lork, E.; Moldovan, O.; Raț, C. I.  
*Acta Crystallogr., Sect. C: Cryst. Struct. Commun.* **2007**, *63*, m548-m549.  
DOI: 10.1107/S0108270107049943
43. Syntheses and structures of distibene complexes of tungsten and titanium: W(CO)<sub>5</sub>{(2,6-Mes<sub>2</sub>C<sub>6</sub>H<sub>3</sub>)<sub>2</sub>Sb<sub>2</sub>} (Mes=2,4,6-Me<sub>3</sub>C<sub>6</sub>H<sub>2</sub>) and Cp<sub>2</sub>Ti{(2,6-Mes<sub>2</sub>C<sub>6</sub>H<sub>3</sub>)<sub>2</sub>Sb<sub>2</sub>}.  
Breunig, H. J.; Borrmann, T.; Lork, E.; Raț, C. I.; Rosenthal, U.  
*Organometallics* **2007**, *26*, 5364-5368.  
DOI: 10.1021/om700681w
44. Syntheses, structures and DFT study of W(CO)<sub>5</sub>(Ph<sub>2</sub>SbX) X = Cl, Br, I.  
Breunig, H. J.; Borrmann, T.; Lork, E.; Raț, C. I.  
*J. Organomet. Chem.* **2007**, *692*, 2593-2598.  
DOI: 10.1016/j.jorganchem.2007.03.007
45. Synthesis and structures of stiba choline bromide, [Me<sub>3</sub>SbCH<sub>2</sub>CH<sub>2</sub>OH]Br and (Me<sub>3</sub>SbCH<sub>2</sub>COO)<sub>8</sub>(NaBr)<sub>7</sub>(MeOH)<sub>9</sub>(H<sub>2</sub>O), a supramolecular derivative of stiba betaine.  
Balázs, L.; Breunig, H. J.; Lork, E.; Raț, C. I.  
*Appl. Organomet. Chem.* **2005**, *19*, 1263-1267.  
DOI: 10.1002/aoc.982



46. New versatile phosphorus ligands containing SPNSO skeleton - synthesis and characterization of  $(SPPH_2)(O_2SR)NH$  acids ( $R = Me, C_6H_4Me-4$ ) and their alkaline metal salts. Crystal and molecular structures of  $(SPPH_2)(O_2SR)NH$ .  
Szabo, M.; Ban, D.; Raț, C.; Silvestru, A.; Drake, J. E.; Hursthouse, M. B.; Light, M. E.  
*Inorg. Chim. Acta* **2004**, 357, 3595-3602.

DOI: 10.1016/j.ica.2004.03.047

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