

LIST OF PUBLICATIONS

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ARTICLES

Coordination Chemistry

- 1) **2,2'-Bis(6-(2,2'-bipyridyl))biphenyl (TET), a Sterically Constricted Tetradentate Ligand : Structure and Properties of its Complexes with Copper(I) and Copper(II)**
Müller E.,* Piguet C., Bernardinelli G., Williams A.F. *Inorg. Chem.* 27, 849 (1988)
- 2) **The Preparation and Crystal Structure of the Unusual Double Helical Copper(I) Complex [Cu₂(2,6-bis(1-methyl-benzimidazol-2-yl)pyridine)₂]naphtalene-1,5-disulfonate**
Piguet C., Bernardinelli G., Williams A.F.* *Inorg. Chem.* 28, 2920-2925 (1989).
- 3) **Models for Copper-Dioxygen Complexes : the Chemistry of Copper(II) with some Planar Tridentate Nitrogen Ligands**
Piguet C., Bocquet B., Müller E., Williams A.F.* *Helv. Chim. Acta* 72, 323-337 (1989).
- 4) **Synthesis and Electronic Properties of Intensely Coloured Iron(II) Complexes with New 4-Substituted Planar Tridentate Nitrogen Ligands Analogous to 2,2':6',2'' Terpyridine**
Piguet C.,* Bochet C.G., Williams A.F. *Helv. Chim. Acta* 76, 372-384 (1993).
- 5) **On-Demand Degradation of Metal-Organic Framework Based on Photocleavable Dianthracene-Based Ligand**
Collet G.,* Lathion T., Besnard C., Piguet C., Petoud S.* *J. Am. Chem. Soc.* 140, 10820-10828 (2018)

Organic Synthesis

- 1) **Synthesis of Unsubstituted and 4,4' Substituted Oligobipyridines as Ligand Strands for Helicate Self-Assembly**
Harding M, Koert U., Lehn J.-M.,* Piguet C., Rigault A., Siegel J. *Helv. Chim. Acta* 74, 594-610 (1991).
- 2) **Synthesis of Segmental Heteroleptic Ligands for the Self-Assembly of Helical Complexes**
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- 3) **Kinetics of Rh(II)-Catalyzed α -Diazo- β -ketoester Decomposition and Application to the [3+6+3+6] Synthesis of Macrocycles on a Large Scale and at Low Catalyst Loadings**
Poggiali D., Homberg A., Lathion T., Piguet C., Lacour J.* *ACS Catal.* **6**, 4877-4881 (2016).

Supramolecular Chemistry of d-block Metal Ions

- 1) **A Self-Assembly Triple-Helical Co₂ complex: Synthesis and Structure**
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- 2) **Self-Assembly of Dinuclear Helical and Non-helical Complexes with Copper(I)**
Rüttimann S., Piguet C., Bernardinelli G., Bocquet B., Williams A.F.* *J. Am. Chem. Soc.* **114**, 4230-4237 (1992)
- 3) **Self-Assembly of Double and Triple Helices Controlled by Metal Ion Stereochemical Preference**
Piguet C., Bernardinelli G., Bocquet B., Quattropanni A., Williams A.F.* *J. Am. Chem. Soc.* **114**, 7440-7451 (1992)
- 4) **Co(III)/Co(II) Electrochemical Potential Controlled by Sterical Constraints in Self-Assembled Dinuclear Triple-Helical Complexes**
Piguet C., Bernardinelli G., Bocquet B., Schaad O., Williams A.F.* *Inorg. Chem.* **33**, 4112-4121 (1994)
- 5) **Structure and Resolution of a Dinuclear Co(III) Triple Helix**
Charbonnière L.J., Bernardinelli G., Piguet C., Sargeson A.M., Williams A.F.* *J. Chem. Soc. Chem. Comm.* 1419-1420 (1994)
- 6) **Self-Assembly of Heteronuclear Supramolecular Helical Complexes with Segmental Ligands**
Piguet C.,* Hopfgartner G., Bocquet B., Schaad O., Williams A.F. *J. Am. Chem. Soc.* **116**, 9092-9102 (1994).
- 7) **Formation of the First Isomeric [2]-Catenates by Self-Assembly about two Different Metal Ions**
Piguet C.,* Bernardinelli G., Williams A.F., Bocquet B. *Angew Chem. Int. Ed. Engl.* **34**, 582-584 (1995)
- 8) **Structural, Magnetic and Electrochemical Properties of Dinuclear Triple Helices: Comparison with their Mononuclear Analogues**
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- 9) **Stability and Lability of Dicopper Double-Stranded Helicates in Solution**
Carina R.F., Williams A.F.,* Piguet C. *Helv. Chim. Acta* **81**, 548-557 (1998).
- 10) **Structure, Formation, and Dynamics of Mo₁₂ and Mo₁₆ Oxothiomolybdenum Rings Containing Terephthalate Derivatives**
Lemonnier J.-F., Floquet S.,* Marrot J., Terazzi E., Piguet C., Lesot P., Pinto A., Cadot E.* *Chem. Eur. J.* **13**, 3548-3557 (2007)

- 11) **Host-Guest Adaptability Within Oxothiomolybdenum Wheels: Structures, Studies in Solution and DFT Calculations**
Lemonnier J.-F., Floquet S.,* Kachmar A., Rohmer M.-M., Bénard M., Marrot J., Terazzi E., Piguet C., Cadot E.* *Dalton Trans.* 3043-3054 (2007)
- 12) **Looking for the Origin of the Switch Between Coordination-Captured Helicates and Catenates**
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- 13) **Thermodynamic N-Donor Trans Influence in Labile Pseudo-Octahedral Zinc Complexes: A Delusion**
Aboshyan-Sorgho L., Lathion T., Guénée L., Besnard C., Piguet C.* *Inorg. Chem.* 53, 13093-13104 (2014)
- 14) **Cr(III) as an Alternative to Ru(II) in Metallo-Supramolecular Chemistry**
Zare D., Doistau B.,* Nozary H., Besnard C., Guénée L., Suffren Y., Pelé A.-L., Hauser A.,* Piguet C.* *Dalton Trans.* 46, 8992-9009 (2017)
- 15) **Cis and Trans-9-10-di(1Himidazol-1-yl)-Anthracene Based Coordination Polymers of Zn(II) and Cd(II): Synthesis, Crystal Structures and Luminescence Properties**
Valylevskiy S. I., Regeta K., Ruggi A., Petoud S., Piguet C., Fromm K. M.* *Dalton Trans.* 47, 596-607 (2018)
- 16) **Excimer-Based On-Off Bis(pyreneamide) Macrocyclic Chemosensors**
Vishe M., Lathion T., Pascal S., Yushchenko O., Homberg A., Brun E., Vauthey E.* , Piguet C.* , Lacour J.* *Helv. Chim. Acta* 101, e1700265 (2018)
- 17) **Heteroleptic Ter-Bidentate Cr(III) Complexes as Tunable Optical Sensitizers**
Doistau B.,* Collet G., Acuna Bolomey E., Sadat-Noorbakhsh S., Besnard C., Piguet C.* *Inorg. Chem.* 57, 14362-14373 (2018)
- 18) **Versatile Heteroleptic Bis-Terdentate Cr(III) Chromophores Displaying Room Temperature Millisecond Excited State Lifetimes**
Jimenez J.-J.,* Doistau B.,* Besnard C., Piguet C.* *Chem. Commun.* 54, 13228-13231 (2018)
- 19) **Deciphering the Influence of Meridional versus Facial Isomers in Spin Crossover Complexes**
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- 20) **Chiral Molecular Ruby [Cr(dqp)₂]³⁺ with Long-Lived Circularly Polarized Luminescence**
Jimenez J.-J.,* Doistau B., Cruz C. M., Besnard C., Cuerva J. M., Canpana A. G.* Piguet C.* *J. Am. Chem. Soc.* 141, 13244-13252 (2019)
- 21) **A Key Strategy for the Rational Incorporation of Long-lived NIR Emissive Cr(III) Chromophores into Polymetallic Architectures**
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- 22) **The Tyranny of Arm-Wrestling Methyls on Iron(II) Spin State in Pseudo-Octahedral [Fe(didentate)₃] Complexes**
Deorukhkar, N., Lathion, T., Guénée, L., Besnard C., Piguet C.* *Chemistry* 2, 231-252 (2020).

- 23) **Luminescent Polypyridyl Heteroleptic Cr^{III} Complexes with High Quantum Yields and Long Excited State Lifetimes**
Jimenez J.-J.,* Poncet M, Doistau B., Besnard C., Piguet C.* *Dalton Trans.* 49, 13528-13532 (2020)

Supramolecular Lanthanide Probes

- 1) **Structural and Photophysical Properties of Lanthanide Nitrate 1:1 Complexes with Planar Tridentate Nitrogen Ligands Analogous to 2,2':6',2" Terpyridine**
Piguet C.,* Williams A.F., Bernardinelli G., Moret E.,* Bünzli J.-C.G. *Helv. Chim. Acta* 75, 1697-1717 (1992)
- 2) **The First Self-Assembled Dinuclear Triple-Helical Lanthanide Complex: Synthesis and Structure**
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- 4) **Structural and Photophysical Properties of Lanthanide Complexes with Planar Aromatic Tridentate Nitrogen Ligands as Luminescent Building Blocks for Triple-Helical Structures**
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- 5) **Design of Luminescent Building Blocks for Supramolecular Triple-Helical Lanthanide Complexes**
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- 6) **Luminescent Properties of Lanthanide Complexes with Substituted Bis(benzimidazole)pyridines**
Petoud S., Bünzli, J.-C.G.,* Schenk K.J., Piguet C.* *Inorg Chem.* 36, 1345-1353 (1997)
- 7) **In Search for Mononuclear Helical Lanthanide Building Blocks with Predetermined Properties: Triple-Stranded Helical Complexes with 2,6-Pyridinedicarboxylic Acid-bis-diethylamide**
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- 8) **In Search for Mononuclear Helical Lanthanide Building Blocks with Predetermined Properties: Lanthanide Complexes with 2,6-Pyridinedicarboxylic Acid-bis-ethylester**
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- 9) **Stability and Size-Discriminating Effects in Mononuclear Lanthanide Triple Helical Building Blocks with Tridentate Aromatic Ligands**
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- 10) **Self-Assembled Dinuclear Helicates: Substantial Luminescence Enhancement Upon Replacing Terminal Benzimidazole Groups by Carboxamide Binding Units**
Martin N., Bünzli J.-C.G.,* McKee V., Piguet C.,* Hopfgartner G. *Inorg. Chem.* 37, 577-589 (1998).
- 11) **Influence of Charge-Transfer States on the Eu(III) Luminescence in Mononuclear Triple Helical Complexes with Tridentate Aromatic Ligands**
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- 12) **The First Lanthanide-containing Helicates Self-assembled in Water**
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- 13) **Lanthanide Helicates Self-assembled in Water: a New Class of Highly Stable and Luminescent Bimetallic Carboxylates**
Elhabiri M., Scopelliti R., Bünzli J.-C.G.,* Piguet C. *J. Am. Chem. Soc.* 121, 10747-10762 (1999).
- 14) **Effect of a Halogenide Substituent on the Stability and Photophysical Properties of Lanthanide Triple-stranded Helicates with Ditopic Ligands Derived from Bis(benzimidazole)pyridine**
Platas Iglesias C., Elhabiri M., Hollenstein M., Bünzli J.-C.G.,* Piguet C. *J. Chem. Soc., Dalton Trans.* 2031-2043 (2000).
- 15) **Theoretical Modelling of the Low Quantum Yield Observed in an Eu(III) Triple Helical Complex with a Tridentate Aromatic Ligand**
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- 16) **Influence of Bulky N-Substituents on the Formation of Lanthanide Triple Helical Complexes with a Ligand Derived from Bis(benzimidazole)pyridine: Structural and Thermodynamic Evidences**
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- 19) **Visible and Near Infrared Luminescence of Lanthanide-Containing Dimetallic Triple-Stranded helicates: Modelling of the Energy Transfer Processes in the Sm(III) and Yb(III) Molecular Edifices**
Gonçalves e Silva F. R., Malta O. L., Reinhard C., Güdel H.-U., Piguet C., Moser, J. E., Bünzli J.-C.G.,* *J Phys. Chem. A* 106, 1670-1677 (2002).

- 20) **Self-assembled Triple-stranded Lanthanide Dimetallic Helicates with a Ditopic Ligand Derived from Bis(benzimidazole)pyridine and Featuring an (4-Isothiocyanatophenyl)ethynyl Substituents**
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- 21) **The First Self-Assembled Trimetallic Lanthanide Helicate: Different Coordination Sites in Symmetrical Molecular Architectures**
Bocquet B., Bernardinelli G., Renaud F., Ouali N., Floquet S., Hopfgartner G., Piguet C. * *Chem. Commun.* 930-931 (2002).
- 22) **Discriminating between Lanthanide Ions: Self-Assembly of Heterodimetallic Triple-stranded helicates**
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- 23) **Lanthanide Triple Helical Complexes with a Chiral Bis(benzimidazole)pyridine Derivative**
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- 24) **Self-Assembly Mechanism of a Bimetallic Europium Triple-stranded Helicate.**
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- 25) **The First Self-Assembled Trimetallic Lanthanide Helicates Driven by Positive Cooperativity.**
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- 26) **Structural, Photophysical and Chiro-optical Properties of Lanthanide Complexes with a bis(benzimidazole)pyridine-based Chiral Ligand**
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- 27) **Supramolecular Recognition of Hetero Pairs of Lanthanide Ions: a Step toward Self-assembled Bifunctional Probes**
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- 28) **Monometallic Lanthanide Complexes with Tridentate 2,6-Dicarboxamido-Pyridine Ligands. Influence of Peripheral Substitutions on Steric Congestion and Antenna Effect**
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- 30) **Isolation and Characterization of the First Circular Single-stranded Polymetallic Lanthanide-containing Helicate**
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- 31) **Predictions, Synthetic Strategy, and Isolation of a Linear Tetrametallic Triple-stranded Lanthanide Helicate**
Zeckert K., Hamacek J., Senegas J.-M., Dalla-Favera N., Floquet S., Bernardinelli G., Piguet C.,* *Angew Chem. Int. Ed.* **44**, 7954-7958 (2005).
- 32) **Complexation of Trivalent Lanthanides with Planar Tridentate Aromatic Ligands Tuned by Counteranions and Steric Constraints**
Escande A., Guénée L.,* Buchwalder K.-L., Piguet C.,* *Inorg. Chem.* **48**, 1132-1147 (2009).
- 33) **Self-Assembly of the First Discrete 3d-4f-4f Triple-Stranded Helicate**
Riis-Johannessen T.,* Bernardinelli G., Filinchuk Y., Clifford S., Dalla Favera N., Piguet C.,* *Inorg. Chem.* **48**, 5512-5525 (2009).
- 34) **Protonation and Complexation Properties of Polyaromatic Terdentate Six-Membered Chelate Ligands**
Hoang T. N. Y., Lathion T., Guénée L., Terazzi E., Piguet C.,* *Inorg. Chem.* **51**, 8567-8575 (2012).
- 35) **Perfluorinated Aromatic Spacers for Sensitizing Europium(III) Centers in Dinuclear Oligomers : Better than the Best by Chemical Design ?**
Lemonnier J.-F., Babel L., Guénée L., Mukherjee P., Waldeck D. H., Eliseeva S. V., Petoud S., Piguet C.,* *Angew. Chem. Int. Ed.* **51**, 11302-11305 (2012).
- 36) **A Polyaromatic Terdentate Binding Unit with fused 5,6-Membered Chelates for Complexing s-, p-, d-, and f-Block Cations**
Hoang T. N. Y., Humbert-Droz M., Dutronc T., Guénée L., Besnard C., Piguet C.,* *Inorg. Chem.* **52**, 5570-5580 (2013).
- 37) **Thermodynamic Programming of Erbium(III) Coordination Complexes for Dual Visible/Near-Infrared Luminescence**
Golesorkhi B., Guénée L., Nozary H., Fürstenberg A., Suffren Y., Eliseeva S. V., Petoud S., Hauser A.,* Piguet C.,* *Chem. Eur. J.* **24**, 13158-13169 (2018).
- 38) **Monitoring Fe(II) Spin-State Equilibria via Eu(III) Luminescence in Molecular Complexes: Dream or Reality?**
Lathion T., Fürstenberg A., Besnard C., Hauser A., Bousseksou A., Piguet C.,* *Inorg. Chem.* **59**, 1091-1103 (2020).

Supramolecular Thermodynamics

- 1) **Programming Heteropolymetallic Lanthanide Helicates: Thermodynamic Recognition of Different Metal Ions Along the Strands.**
Floquet S., Borkovec M., Bernardinelli G., Pinto A., Leuthold L.-A., Hopfgartner G., Imbert D., Bünzli J.-C. G., , Piguet C. * *Chem. Eur. J.* **10**, 1091-1105 (2004).
- 2) **A Simple Thermodynamic Model for Rationalizing the Formation of Self-Assembled Multimetallic Edifices: Application to triple-Stranded Helicates**
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- 3) **Statistical Mechanical Approach to Competitive Binding of Metal Ions to Multi-center Receptors**
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- 4) **A Simple Thermodynamic Model for Quantitatively Addressing Cooperativity in Multicomponent Self-assembly Processes. Part 1: Theoretical Concepts and Application to Monometallic Coordination Complexes and Bimetallic Helicates Possessing Identical Binding Sites**
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- 5) **A Simple Thermodynamic Model for Quantitatively Addressing Cooperativity in Multicomponent Self-assembly Processes. Part 2: Extension to Multimetallic Helicates Possessing Different Binding Sites**
Hamacek J,* Borkovec M., Piguet C.* *Chem. Eur. J.* **11**, 5227-5237 (2005).
- 6) **How to Adapt Scatchard Plot for Graphically Addressing Cooperativity in Multicomponent Self-Assemblies**
Hamacek J,* Piguet C. *J. Phys. Chem. B* **110**, 7783-7792 (2006).
- 7) **The Origin of the Surprising Stabilities of Highly Charged Self-Assembled Polymetallic Complexes in Solution**
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- 9) **Tuneable Intramolecular Intermetallic Interactions as a New Tool for Programming Linear Heterometallic 4f-4f Complexes**
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- 10) **Linear Polynuclear Helicates as a Link between Discrete Supramolecular Complexes and Programmed Infinite Polymetallic Chains**
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- 11) **Understanding, Controlling and Programming Cooperativity in Self-Assembled Polynuclear Complexes in Solution**
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- 12) **A Simple Chemical Tuning of the Effective Concentration: Selection of Single-, Double-, and Triple-Stranded Binuclear Lanthanide Helicates**
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- 13) **Intermetallic Interactions Within Solvated Polynuclear Complexes: A Misunderstood Concept**
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- 15) **Allosteric Effects in Binuclear Homo- and Heterometallic Triple-Stranded Lanthanide Podates**
Ryan P. E., Canard G., Koeller S., Bocquet B., Piguet C.,* *Inorg. Chem.* 51, 10012-10024 (2012).
- 16) **Monitoring Helical Twists and Effective Molarities in Dinuclear Triple-stranded Lanthanide Helicates**
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- 18) **Chemical Potential of the Solvent: A Crucial Player for Rationalizing Host-Guest Affinities.**
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- 19) **Neutral Heteroleptic Lanthanide Complexes for Unravelling Host-Guest Assemblies in Organic Solvents: The Law of Mass Action Revisited**
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Non-covalent Lanthanide Podates

- 1) **Self-Assembly of the First Heterodinuclear d-f Triple Helix**
Piguet C.,* Hopfgartner G., Williams A.F., Bünzli J.-C.G. *J. Chem. Soc. Chem. Comm.* 491-493 (1995)
- 2) **Structural and Photophysical Properties of Pseudo-Tricapped Trigonal Prismatic Lanthanide Building Blocks Controlled by Zn(II) in Heterodinuclear d-f Complexes**
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