

Scientific Production Prof. Dominique Armspach Professor at the University of Strasbourg

● **Peer-reviewed articles in international journals**

- [1] *Oxidation of the triterpenic hopane squeleton by peracids*
P. Bissere, D. Armspach, S. Neunlist, M. Rohmer*, *Tetrahedron Lett.* **1990**, 45, 6523-6526.
- [2] *The self-assembly of catenated cyclodextrins*
D. Armspach, P. R. Ashton, C. P. Moore, N. Spencer, J. F. Stoddart*, T. J. Wear, D. J. Williams, *Angew. Chem. Int. Ed.* **1993**, 32, 854-858.
- [3] *Cyclodextrins: 'linking lampshades'*
D. Armspach, P. R. Ashton, N. Spencer, J. F. Stoddart*, D. J. Williams, *Pestic. Sci.* **1994**, 41, 232-235.
- [4] *Catenated cyclodextrins*
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- [5] *Carboranyl cluster-functionalised ligands for metallocupramolecular chemistry*
D. Armspach, E. C. Constable*, C. E. Housecroft*, M. Neuburger, M. Zehnder, *Supram. Chem.* **1996**, 7, 97-100.
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- [7] *Boron-rich metallodendrimers — mix-and-match assembly of multi-functional metallocupramolecules.*
D. Armspach, M. Cattalini, E. C. Constable, C. E. Housecroft, D. Phillips, *Chem. Commun.* **1996**, 1823-1824.
- [8] *Bucky-ligands: fullerene-substituted oligopyridines for metallocupramolecular chemistry.*
D. Armspach, E. C. Constable*, F. Diederich*, C. E. Housecroft, J.-F. Nierengarten, *Chem. Commun.* **1996**, 2009-2010.
- [9] *Carbaborane-functionalised 2,2':6',2''-terpyridine ligands for metallocupramolecular chemistry: Syntheses, complex formation, and the crystal and molecular structures of 4'-(ortho-carboranyl)-2,2':6',2''-terpyridine and 4'-(ortho-carboranylpropoxy)-2,2':6',2''-terpyridine.*
D. Armspach, E. C. Constable*, C. E. Housecroft*, M. Neuburger, M. Zehnder, *J. Organometal. Chem.* **1998**, 550, 193-206.
- [10] *Bucky ligands: synthesis, ruthenium(II) complexes, and electrochemical properties*
D. Armspach, E. C. Constable*, F. Diederich*, C. E. Housecroft, J.-F. Nierengarten, *Chem. Eur. J.* **1998**, 4, 723-733.
- [11] *The tris(4-tert-butylphenyl)methyl group: a bulky substituent for effective regioselective difunctionalisation of cyclomaltohexaose*
D. Armspach, D. Matt*, *Carbohydr. Res.* **1998**, 310, 129-133.
- [12] *Metal-capped α -cyclodextrins: the crowning of the oligosaccharide torus with precious metals*
D. Armspach*, D. Matt*, *Chem. Commun.* **1999**, 1073-1074.
- [13] *The first Ru(II) bipyridyl-capped cyclodextrin. Evidence of electron-transfer through the cavity*
D. Armspach*, D. Matt*, A. Harriman, *Eur. J. Inorg. Chem.* **2000**, 1147-1150.
- [14] *Anchoring an helical handle across a cavity: the first 2,2'-bipyridyl-capped α -cyclodextrin capable of encapsulating transition metals*

D. Armspach*, D. Matt*, N. Kyritsakas, *Polyhedron* **2001**, 663-668.

- [15] *Dicobalt cluster functionalized 2,2':6',2''-terpyridines ligands and their ruthenium(II) complexes*
E. C. Constable*, C. E. Housecroft*, L. A. Johnston, D. Armspach, M. Neuburger, M. Zehnder, *Polyhedron* **2001**, 20, 483-492.
- [16] *Metal-capped α -cyclodextrins: squaring the circle*
D. Armspach*, D. Matt*, *Inorg. Chem.* **2001**, 40, 3505-3509.
- [17] *Cyclodextrin cavities as probes for ligand-exchange processes*
E. Engeldinger, D. Armspach*, D. Matt*, *Angew. Chem. Int. Ed.* **2001**, 40, 2526-2529.
- [18] *A cyclodextrin diphosphane as a first and second coordination sphere cavitand: Evidence for weak C—H...Cl—M hydrogen bonds within metal-capped cavities*
E. Engeldinger, D. Armspach*, D. Matt*, P. G. Jones, R. Welter, *Angew. Chem. Int. Ed.* **2002**, 41, 2593-2596.
- [19] *Synthesis of large chelate rings with diphosphites built on a cyclodextrin scaffold. Unexpected formation of 1,2-phenylene-capped α -cyclodextrins*
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- [20] *Selective tetrafunctionalisation of α -cyclodextrin using the supertrityl protecting group - Synthesis of the first C_2 -symmetric tetraphosphane based on a cavitand (α -TEPHOS)*
L. Poorters, D. Armspach*, D. Matt*, *Eur. J. Org. Chem.* **2003**, 1377-1381.
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D. Armspach*, D. Matt*, F. Peruch, P. Lutz, *Eur. J. Inorg. Chem.* **2003**, 805-809.
- [22] *Cyclodextrin phosphanes as first and second coordination sphere cavitands*
E. Engeldinger, D. Armspach*, D. Matt*, P. G. Jones, *Chem. Eur. J.* **2003**, 9, 3091-3105.
- [23] *Capped cyclodextrins*
E. Engeldinger, D. Armspach*, D. Matt*, *Chem. Rev.* **2003**, 103, 4147-4174.
- [24] *Diastereospecific synthesis of phosphinidene-capped cyclodextrins leading to "introverted" ligands*
E. Engeldinger, L. Poorters, D. Armspach*, D. Matt*, L. Toupet, *Chem. Commun.* **2004**, 634-635.
- [25] *Conical cavitands as second coordination spheres and protecting environments. Towards metal-centred, intra-cavity reactions*
D. Armspach, I. Bagatin, E. Engeldinger, J. Harrowfield, C. Lejeune, D. Matt*, *J. Iran. Chem. Soc.* **2004**, 1, 10-19.
- [26] *A new approach to A,B-difunctionalisation of cyclodextrins using bulky 1,3-bis[bis(aryl)chloromethyl]benzenes as capping reagents*
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C. Jeunesse, D. Armspach, D. Matt, *Chem. Commun.* **2005**, 5603-5614.
- [28] *Sulfur-capped cyclodextrins: a new class of cavitands with extroverted as well as introverted donor functionalities*
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- [29] *Cyclodextrin-based thiocavitands as building blocks for the construction of metallo-nanotubes*
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- [30] *A metallocavitand functioning as a container for anions. Formation of non-covalent, linear assemblies mediated by a cyclodextrin-entrapped NO₃ anion*
L. Poorters, D. Armspach*, D. Matt*, L. Toupet, *Angew. Chem. Int. Ed.* **2007**, 46, 2663-2665.
- [31] *α -TEPHOS: A cyclodextrin-derived tetrachosphine for multiple metal binding*
L. Poorters, D. Armspach*, D. Matt*, L. Toupet, *Dalton Trans.* **2007**, 3195-3202.
- [32] *Synthesis of chiral, monodentate aminophosphine and phosphoramidite ligands derived from amino acid esters. Application in the Rh-catalysed asymmetric olefin hydrogenation*
L. Eberhardt, D. Armspach*, D. Matt*, L. Toupet, B. Oswald, *Eur. J. Inorg. Chem.* **2007**, 4153-4161.
- [33] *Efficient, rhodium-catalyzed hydrogenation of α -dehydroamino acid esters with chiral monodentate aminophosphines bearing two binaphthyl groups*
L. Eberhardt, D. Armspach*, D. Matt*, L. Toupet, B. Oswald, *Eur. J. Org. Chem.* **2007**, 5395-5403.
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- [37] *BINOL-derived phosphoramidites in asymmetric hydrogenation: can the presence of a functionality in the amino group influence the catalytic outcome?*
L. Eberhardt, D. Armspach*, J. Harrowfield, D. Matt*, *Chem. Soc. Rev.* **2008**, 37, 839-864.
- [38] *Self-assembled monolayers of α -cyclodextrin derivatives on gold and their host-guest behavior*
A. Perl, L. Kumprecht, T. Kraus*, D. Armspach*, D. Matt, D. N. Reinhoudt, J. Huskens*, *Langmuir* **2009**, 25, 1534-1539.
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- [40] *Crystal structure of nonadecamethylated 6A,6C-epithio-6A,6C-dideoxy- α -cyclodextrin - pentane - water (1:1:1), C₆₁H₁₀₆O₃₃S · C₅H₁₂ · H₂O*
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- [41] *"Through-space" nuclear spin-spin couplings in ferrocenyl polyphosphanes and diphosphino cavitands: A new way of gathering structural information in constrained P(III) ligands by NMR*
J.-C. Hierso, D. Armspach*, D. Matt*, *C. R. Chim.* **2009**, 12, 1002-1013.
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R. Gramage-Doria, D. Armspach*, D. Matt*, L. Toupet, *Angew. Chem. Int. Ed.* **2011**, 50, 1554-1559.
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R. Gramage-Doria, D. Rodriguez-Lucena, D. Armspach*, C. Egloff, M. Jouffroy, D. Matt*, L. Toupet, *Chem. Eur. J.* **2011**, 17, 3911-3921.
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M. Jouffroy, R. Gramage-Doria, D. Armspach*, D. Matt*, L. Toupet, *Chem. Commun.* **2012**, *48*, 6028-6030.
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M. Jouffroy, D. Armspach*, D. Matt*, L. Toupet, *Org. Biomol. Chem.* **2013**, *11*, 3699-3705.
- [51] *Phosphane-phosphite chelators built on a α -cyclodextrin scaffold: Application in Rh-catalysed asymmetric hydrogenation and hydroformylation.*
M. Jouffroy, D. Sémeril, D. Armspach*, D. Matt*, *Eur. J. Org. Chem.* **2013**, 6069-6077.
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R. Gramage-Doria, D. Armspach*, D. Matt*, *Coord. Chem. Rev.* **2013**, *257*, 776-816.
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M. Jouffroy, D. Armspach*, A. Louati, D. Matt*, L. Toupet, *Chem. Eur. J.* **2014**, *20*, 2565-2573.
- [54] *Confining phosphanes derived from cyclodextrins for efficient regio- and enantioselective hydroformylation.*
M. Jouffroy, R. Gramage-Doria, D. Armspach*, D. Sémeril, W. Oberhauser, D. Matt*, L. Toupet, *Angew. Chem. Int. Ed.* **2014**, *53*, 3937-3940.
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M. Jouffroy, R. Gramage-Doria, D. Sémeril, D. Armspach*, D. Matt*, W. Oberhauser, L. Toupet, *Beilstein J. Org. Chem.* **2014**, *10*, 2388-2405.
- [56] *Cyclodextrin and phosphorus(III): a versatile combination for coordination chemistry and catalysis*
M. Jouffroy, D. Armspach*, D. Matt*, *Dalton Trans.* **2015**, *44*, 12942-12969.
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- [61] *Cavity-shaped ligands for asymmetric metal catalysis*
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- [64] *Enabling stereochemical communication and stimuli-responsive chiroptical properties in biphenyl-capped cyclodextrins*
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- [67] *Permethylated cyclodextrins with thiol groups as stabilizing agents for catalytic water-soluble platinum nanoparticles*
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- [68] *Cis-chelating diphosphanes for intracavity nickel(II)-catalyzed ethylene oligomerization*
Y. Li, S. Figueirêdo de Alcântara Moraes, M. Han, T.-A. Phan, G. Creste, M. Jouffroy, D. Matt, J.-P. Djukic, Y. Cornaton, P. Braunstein, K. Pelzer*, D. Armspach*, *Chem. Eur. J.* **2025**, n/a, e202501188.

● **Articles in national journals**

- [69] *TRANSDIP : un trans-chélateur authentique*
L. Poorters, M. Lejeune, D. Armspach, D. Matt, *Actual. Chim.* **2009**, 326, 15-18.

● **Book chapters**

- [70] *Carborane-functionalized ligands for metallocupramolecular chemistry*
D. Armspach, M. Cattalini, E. C. Constable, C. E. Housecroft, M. Neuburger, M. Zehnder, in *Advances in Boron Chemistry*, RSC Special Publication N°. 201, Cambridge, **1997**, p 297.
- [71] *Cyclodextrins*
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- [72] *Coordination chemistry and catalysis (with regard to calixarenes)*
C. Wieser-Jeunesse, S. Steyer, D. Armspach, D. Matt, J. Harrowfield in *Calix 2001* (Eds: J. Vicens, Z. Asfari, J. M. Harrowfield, V. Böhmer), Kluwer Academic Publishers, Dordrecht, **2001**, p. 513.

● **Patents**

- [73] *Cyclodextrin catenane compounds capable of forming inclusion complexes*

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[74] *Aza-capped cyclodextrins and process of preparing them*

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L. Poorters, D. Armspach, E. Engeldinger, D. Matt, *Proceedings of the 12th International Cyclodextrin Symposium*, Montpellier, France, APGI, **2004**, 73-76.

[76] *Effective A,B-disubstitution of cyclodextrins using capping reagents containing two "trityl" subunits*

L. Poorters, D. Armspach, D. Matt, B. Benmerad, F. Balegroune, *Proceedings of the 12th International Cyclodextrin Symposium*, Montpellier, France, APGI, **2004**, 117-120.