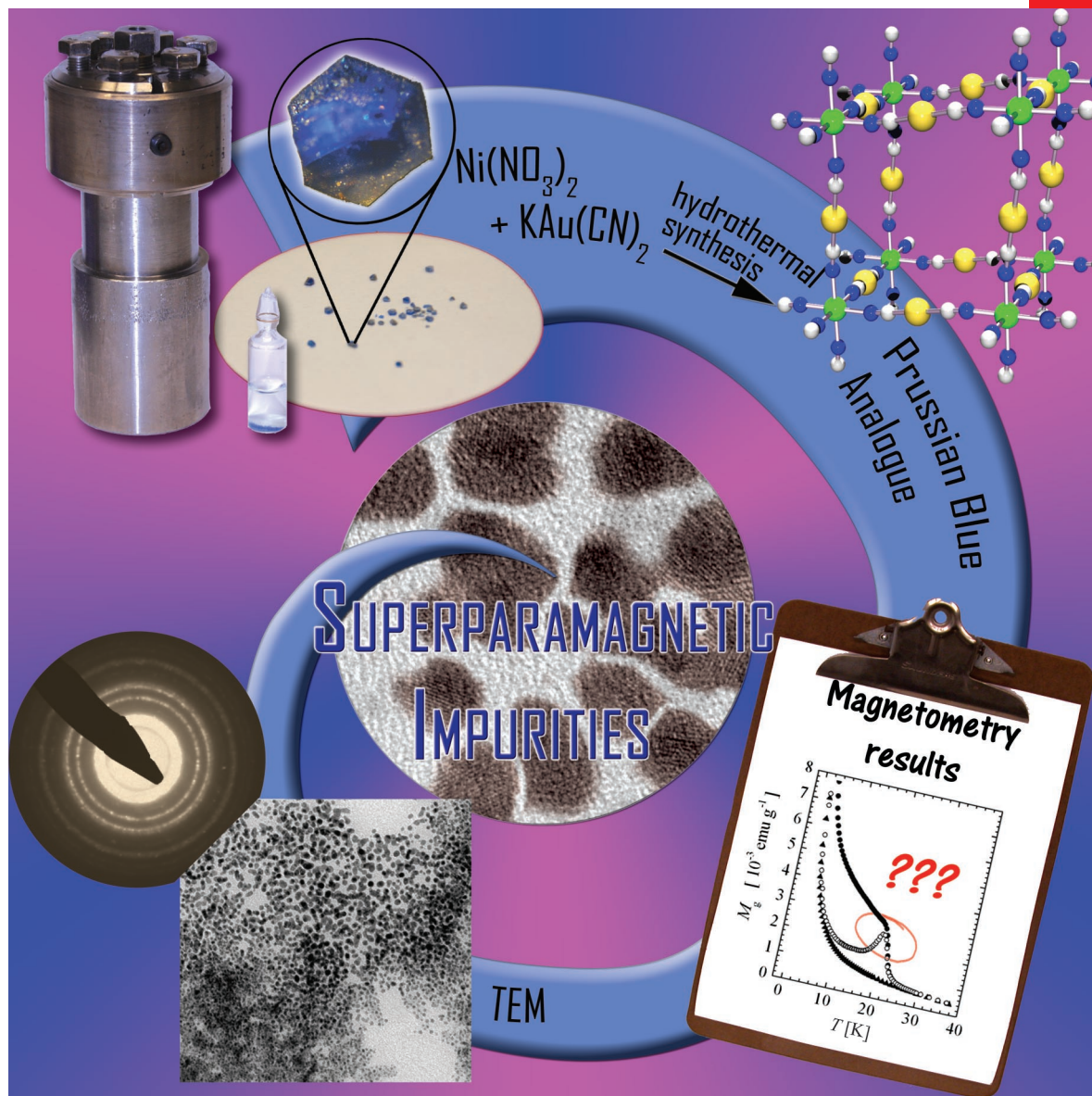


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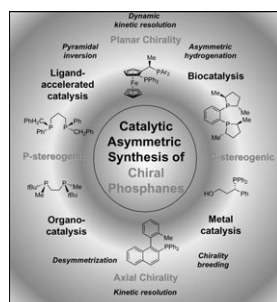
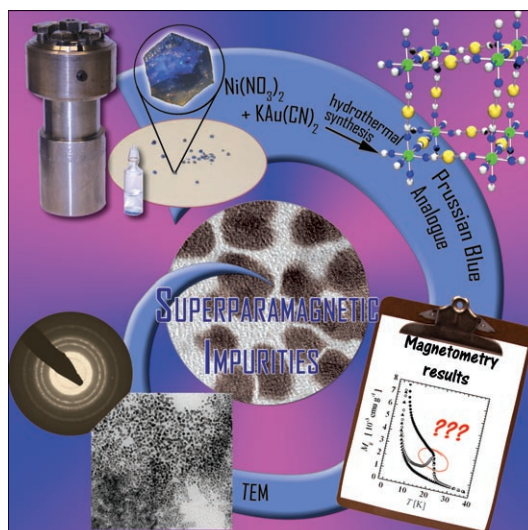
Concept
Catalytic Asymmetric Synthesis of Chiral Phosphanes
D. S. Glueck

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Hydrothermal synthesis...

... is a versatile tool for the preparation of materials, hard-to-access compounds, and high-quality single crystals. However, as is described by D. B. Leznoff, R. H. Hill et al. on page 7156 ff., when high-dimensional Prussian Blue analogue cyanometallate coordination polymers are prepared by this method, it is also possible to inadvertently prepare magnetic nanoparticles that usurp the observed magnetic properties. As depicted by the flow diagram, a much closer look is required to properly identify the culprits, which are present in such minute amounts as to be undetectable by conventional analysis methods, thereby misleading one to believe the prepared material is pure and pristine.

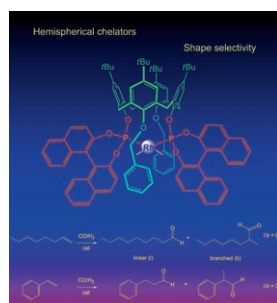
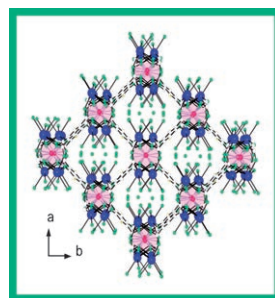


Chiral Phosphanes

In the Concept article on page 7108 ff., D. S. Glueck describes catalytic asymmetric methods for the synthesis of chiral phosphanes. These valuable compounds can be prepared selectively by using metal-catalyzed reactions, biocatalysis, organocatalysis, and ligand-accelerated catalysis.

Metal–Organic Frameworks

In their Communication on page 7136 ff., K.-L. Lu et al. demonstrate a unique supramolecular system and the successful synthesis of two metal–organic frameworks that possess rare (4,8)-connected scu and a (4,4)-connected pts nets.



Calix[4]arenes

Calix[4]arenes constitute valuable platforms for the design of sophisticated, multifunctional ligands. In their Full Paper on page 7144 ff., D. Matt, D. Sémeril and L. Toupet describe how such macrocycles can be used for synthesising rhodium complexes in which the metal is nestled in a molecular pocket. When used in olefin hydroformylation, these complexes result in unusually high proportions of linear aldehydes, independent of the starting olefin structure.

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