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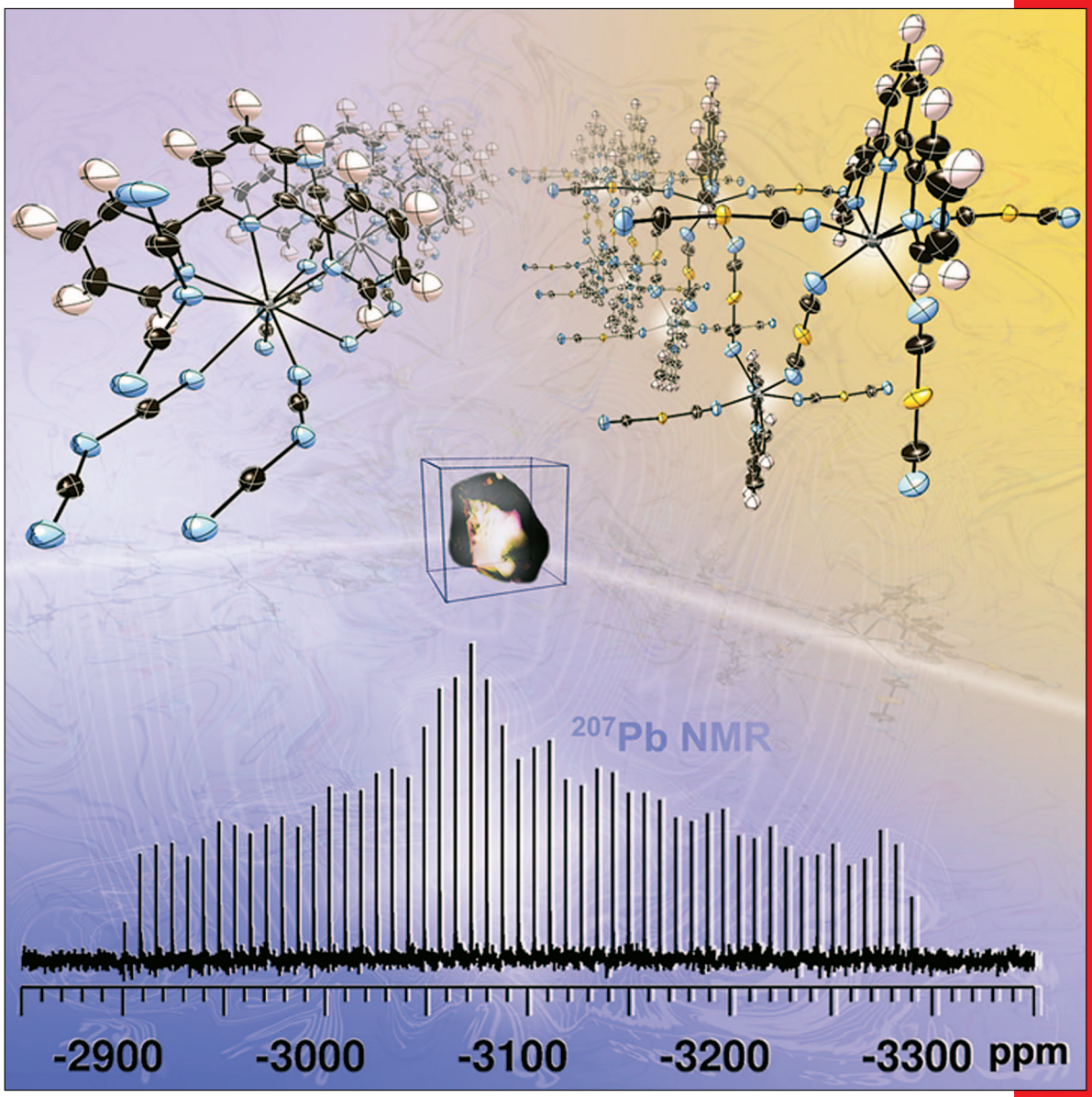

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Minireview

β-Protic Pyrazole and N-Heterocyclic Carbene Complexes: Synthesis, Properties, and Metal–Ligand Cooperative Bifunctional Catalysis

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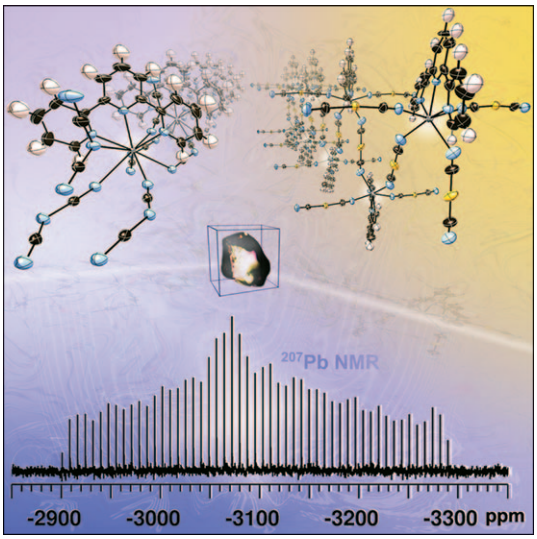
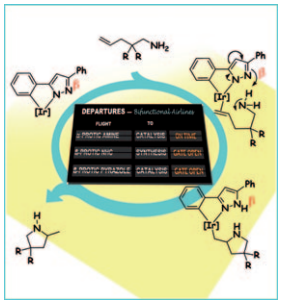
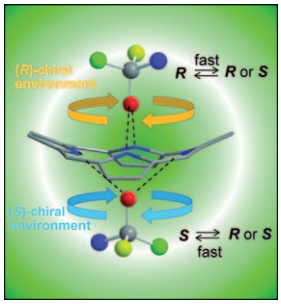
… …plays a key structural role in lead(II)-based coordination polymers. In their Full Paper on page 3609 ff., S. Kroeker et al. show that ^{207}Pb solid-state NMR spectroscopy offers a unique spectroscopic probe linking structural and electronic characteristics with optical properties, providing a predictive tool for materials design.

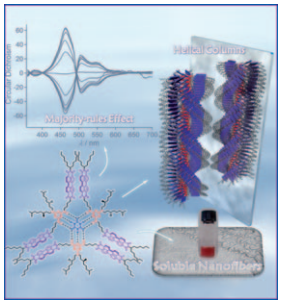




Cooperative Bifunctional Catalysis
In the Minireview on page 3542 ff., T. Ikariya and S. Kuwata present the chemistry of β-protic pyrazole and NHC complexes. It has been demonstrated that both classes of complexes have proton and hydrogen-bond donating ability as the α-protic amine complexes. Catalysis of pyrazole complexes, different to that of the α-protic bifunctional catalysts, is emerging. Although that of the robust NHC complex still remains rare, recent advances in the synthesis of protic NHC complexes, especially chelate-stabilized ones, will lead to the development of their catalysis in the near future.

Chiral Solvating Agents
In their Communication on page 3558 ff., J. P. Hill et al. present a new mechanism that accounts for chiral differentiation by nonchiral–chiral solvating agents (*nc*–CSAs) such as the substituted porphine dication macrocycle. Tetraphenylporphine and other substituted porphines present a simple solution to the determination of the *ee* in chiral acids, and this result may be extended to a wider family of chiral guests.





Dye Assemblies
In their Full Paper on page 3598 ff., S. Yagai et al. describe gel-forming, semiconducting perylene bisimide helical columnar assemblies, which are constructed from hydrogen-bonded disc-shaped complexes. Chiral substituents are attached to the center of the discs rather than to their periphery, enabling effective transcription of the molecular chirality to the supramolecular helices and expression of the "majority-rules" chiral amplification effect.