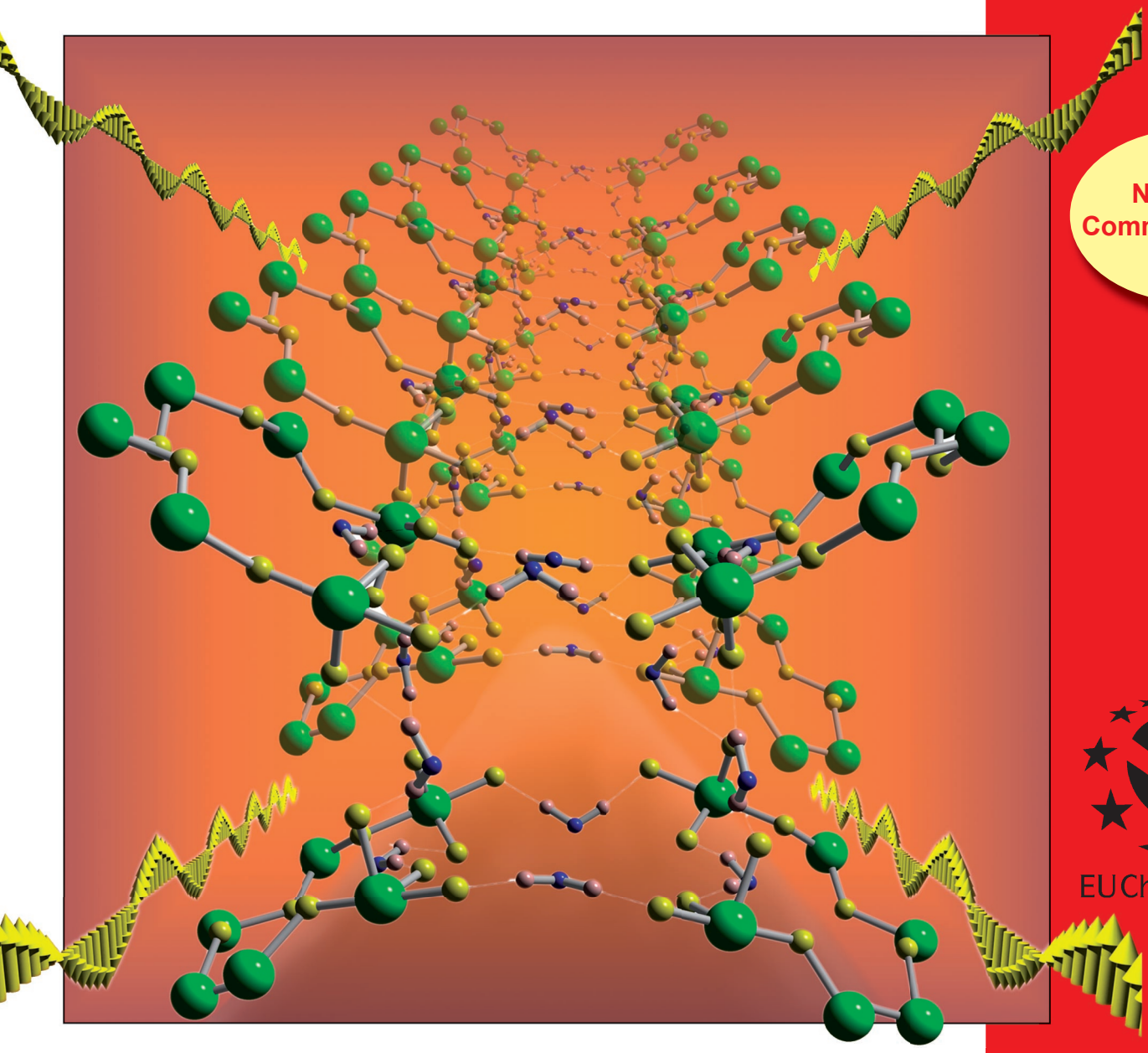
# CHEMISTRY

## A EUROPEAN JOURNAL

14/17

2008

Now with Communications

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**Concept**

Metal-Mediated Formation of Carbon–Halogen Bonds

A. Vigalok

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CEUJED 14 (17) 5085–5364 (2008) · ISSN 0947-6539 · Vol. 14 · No. 17 · 2008

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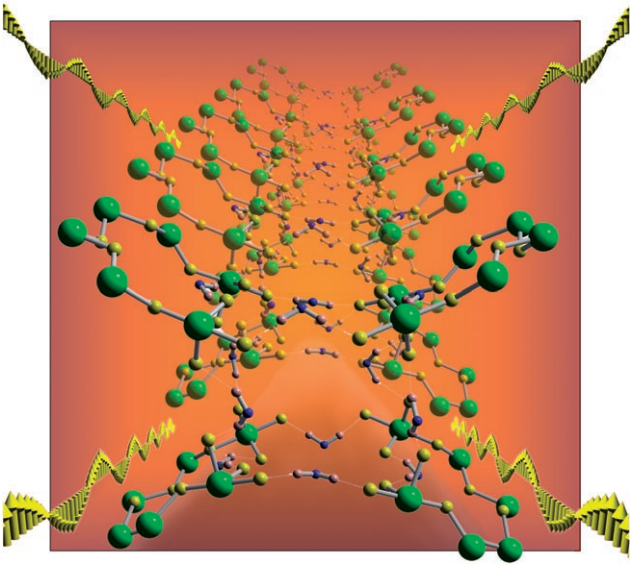
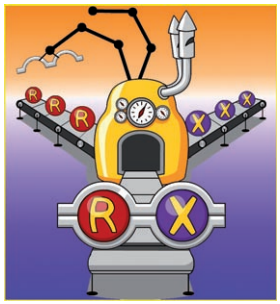
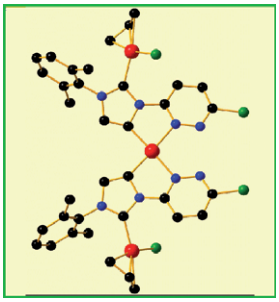
… pack in crystals to give beautiful supramolecular arrays. They can also be regarded as finite chains of paramagnetic ions, and, therefore, can also be used to test models for magnetic behavior, such as spin-wave theory, as H. U. Grüdel, R. E. P. Winpenny et al. shown on page 5144 ff., in their Full Paper.

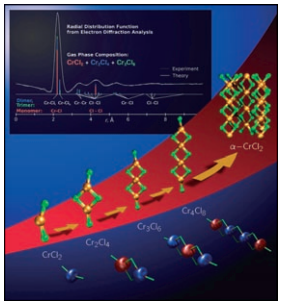





**Halogenation**
In the Concept article on page 5102 ff., A. Vigalok discusses how the reaction of C–halide reductive elimination can be quite common and synthetically important. Such reactions have been observed with alkyl, acyl, and aryl groups, and it was shown that they can successfully compete with the more thermodynamically favorable C–C reductive elimination.

**Intermolecular C–H Activation**
A novel self-deactivation sequence of [Pd(allyl)(NHC)] complexes has been discovered, in which the Pd-bound NHC ligand is non-innocent and undergoes C–H metallation at the backbone. Two of the resulting complexes feature an unprecedented (and unexpected) carbene/alkenyl coordination of an imidazolium-derived NHC ligand to two transition-metal ions, which is assisted by the chelating pyridazine arm. For more information see the Communication by F. Meyer et al. on page 5112 ff.





**Chromium Dichloride**
The oligomerization of chromium dichloride in the gas phase is structurally equivalent to the chain motif found in the solid as both unrestricted Kohn–Sham (broken-symmetry) density functional calculations and gas-phase electron diffraction studies show. The monomer has a Renner–Teller distorted bent structure, while the clusters consist of two-dimensional, antiferromagnetically coupled of $CrCl_2$ units forming four-membered, doubly bridged $Cr_2Cl_2$ rings. Each Cr atom in these chains has spin quantum number $S=2$. For more information see the Full Paper by P. Schwerdtfeger, M. Hargittai et al. on page 5130 ff.