

## Mechanisms in Organogold Chemistry

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Gold is the most electronegative metal. As a result, it frequently displays reactivity that may seem counterintuitive. The group of Bochmann (University of East Anglia) has been focusing on the organic chemistry of Au(III). There are strong parallels between Au(III) and iso-electronic Pt(II), but there are also large differences that at times make interpretation difficult. Standard density functional theory has been found to be very helpful in understanding or rationalizing the reactivity patterns observed by the UAE group. Examples will be discussed of Au(II) catalyzed *trans* hydroauration, of easy and reversible C-H activation, of alkyne complexation and dimerization, and of hydride abstraction from borane, silane and dihydrogen substrates.

