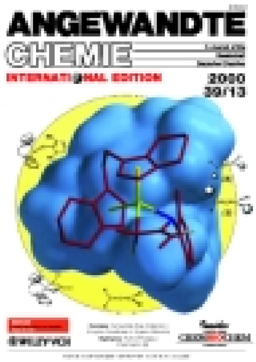
Cover Picture

Zachary K. Sweeney, Jennifer L. Salsman, Richard A. Andersen, and Robert G. Bergman



The cover picture shows a further example of the power of transition metal complexes in organic synthesis: the enantiopure imidozirconium complex, top left, reacts with 1,3-disubstituted racemic allenes (right) in a highly enantioselective, stepwise cycloaddition. Both the enantiomers of an allene react to give the same diastereopure azazirconacyclobutane complex, the structure of which is shown in the center of the picture as a space filling model with the molecular framework superimposed. The reaction with 1,2-propadiene (bottom center) releases the enantiopure allene from the metallacycle. The overall process couples kinetic resolution with the complete inversion of the absolute configuration of a 1,3-disubstituted allene. More about this unusual new method for enantiomer separation and enrichment is reported by R. G. Bergman et al. on page 2339 pp.