

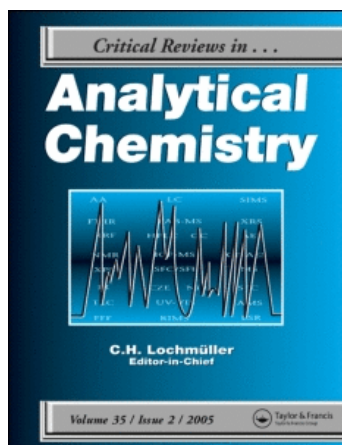
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NEW STRATEGIES IN CATALYST DEVELOPMENT, OPTIMIZATION AND RECYCLING

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This presentation will emphasize our group's work with homogeneous catalysts wherein polymer supports optimize catalyst reuse and separation. Polymer-bound "smart" ligands that provide a means to recover and reuse catalysts and that offer a means to regulate or control reactions will be discussed. Strategies to prepare aqueous and fluorous phase soluble catalysts using linear soluble polymers that have pendant groups that are amphoteric or fluorous-phase soluble will also be described. A third new approach to liquid/liquid separation using thermomorphic systems will be explained. These strategies are of interest because of the increasing desire in industry to minimize problems associated with the use of organic solvents and the costs associated with purification and removal/disposal of by-products in chemical processes. In addition, an overview of existing environmentally benign processes and selected examples of new ways to develop catalysts will be provided.