

Insights: Publications

Cyclic Alkyl Amino Carbene (CAAC) Ruthenium Complexes as Remarkably Active Catalysts for Ethenolysis

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Written by **Alexandra H. Farquhar, Ph.D.**

An expanded family of ruthenium-based metathesis catalysts bearing cyclic alkyl amino carbene (CAAC) ligands was prepared. These catalysts exhibited exceptional activity in the ethenolysis of the seed-oil derivative methyl oleate. In many cases, catalyst turnover numbers (TONs) of more than 100 000 were achieved, at a catalyst loading of only 3 ppm. Remarkably, the most active catalyst system was able to achieve a TON of 340 000, at a catalyst loading of only 1 ppm. This is the first time a series of metathesis catalysts has exhibited such high performance in cross-metathesis reactions employing ethylene gas, with activities sufficient to render ethenolysis applicable to the industrial-scale production of linear α -olefins (LAOs) and other terminal-olefin products.

Related People



Alexandra H. Farquhar, Ph.D.

t 404.815.6442

afarquhar@ktslaw.com