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APPOINTMENTS

Cain Department of Chemical Engineering, Louisiana State University, Baton Rouge, LA

Supervised a group of more than ten ALD users, arranged user meetings, coordinated the instrument usage, trained new users, and maintained the instrument; installed a new ALD instrument for the group.

Olefin metathesis on supported metal oxides

Increased the low-temperature propylene metathesis activity of $\text{MoO}_x/\text{SiO}_2$ and WO_x/SiO_2 by two to three orders of magnitude using a highly efficient and straightforward activation procedure.

Clarified the deactivation mechanism of $\text{MoO}_x/\text{SiO}_2$ and WO_x/SiO_2 in propylene metathesis.

Developed a new methodology to regenerate heterogeneous olefin metathesis catalysts.

Identified the olefin metathesis active sites of $\text{MoO}_x/\text{SiO}_2$, monomeric $\text{Mo}(=\text{O})_2$ dioxos, using isotope tracing, infrared and Raman spectroscopy, and atomic-resolution electron microscopy.

Designed and assembled a multifunctional fixed-bed reactor with online GC and MS analysis.

Wrote NSF grants.

University of California, Santa Barbara

2009 – 2012

Postdoctoral Researcher

Advisors: Galen D. Stucky and Horia Metiu

Hierarchical porous zeolite synthesis

Proposed and validated a new concept for hierarchical porous zeolite syntheses

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Synthesis of High Quality TiO₂