

Robert R. Knowles

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Robert Knowles received a B.S. in chemistry from William and Mary in 2003 and his Ph.D. from Caltech in 2008. Next he was an NIH postdoctoral fellow at Harvard University and is currently an assistant professor of chemistry at Princeton University.

Selected Publications

Selected Publications

Photocatalytic Anti-Markovnikov Hydroamination of Alkenes with Heteroaryl Amines. Geunes, E. P.; Meinhardt, J. M.; Wu, E. J.; Knowles, R. R. *J. Am. Chem. Soc.* 2023, 145, 21738–21744.

Catalytic Asymmetric Hydrogen Atom Transfer: Enantioselective Hydroamination of Alkenes. Hejna, B. G.; Ganley, J. M.; Shao, H.; Tian, H.; Ellefsen, J. D.; Fastuca, N. J.; Houk, K. N.; Miller, S. J.; Knowles, R. R. *J. Am. Chem. Soc.* 2023, 145, 16118–16129.

Chemical Recycling of Thiol Epoxy Thermosets to Monomer via Light-Driven C-C Bond Cleavage. Nguyen, S. T.; Fries, L. J.; Cox, J. H.; Ma, Y.; Fors, B. P.; Knowles, R. R. *J. Am. Chem. Soc.* 2023, 145, 11151–11160.

Radicals as Exceptional Electron-Withdrawing Groups: Nucleophilic Aromatic Substitution of Halophenols via Homolysis-Enabled Electronic Activation. Shin, N. Y.; Tsui, E.; Reinhold, A.; Scholes, G. D.; Bird, M. J.; Knowles, R. R.; *J. Am. Chem. Soc.* 2022, 144, 21783–21790.

Noncovalent Stabilization of Radical Intermediates in the Enantioselective Hydroamination of Alkenes with Sulfonamides. Xu, E. Y.; Werth, J.; Roos, C. B.;

Bendelsmith, A. J.; Sigman, M. S.; Knowles, R. R.; J. Am. Chem. Soc. 2022, 144, 18948–18958.

Contra-thermodynamic Positional Isomerization of Olefins. Zhao, K.; Knowles, R. R. J. Am. Chem. Soc. 2022, 144, 137–144.

Enantioselective Hydroamination of Alkenes with Sulfonamides Enabled by Proton-Coupled Electron Transfer. Roos, C. B.; Demaerel, J.; Graff, D.E; Knowles, R. R. J. Am. Chem. Soc. 2020, 142, 5974–5979.

A Redox Strategy for Light-Driven, Out-of-Equilibrium Isomerizations and Application to Catalytic C–C Bond Cleavage Reactions. Ota, E.; Wang, H.; Frye, N. L.; R.; Knowles, R. R. J. Am. Chem. Soc. 2019, 141, 1457–1462.

Light-driven Deracemization Enabled by Excited-State Electron Transfer. Shin, N. Y.; Ryss, J. M.; Zhang, X.; Miller, S. J.; Knowles, R. R. Science, 2019, 366, 364–369.

Honors and Awards

- E. J. Corey Award (American Chemical Society) 2023
- Arthur C. Cope Scholar Award (American Chemical Society) 2018
- Mitsui Catalysis Science Award of Encouragement 2018
- E. Bright Wilson Prize (Harvard University, Dept. of Chemistry and Chemical Biology) 2018
- Novartis Early Career Award in Organic Chemistry 2017
- Camille Dreyfus Teacher-Scholar Award 2017
- Grammaticakis-Neumann Prize (Swiss Chemical Society) 2017
- Amgen Young Investigator Award 2016
- Eli Lilly Grantee Award 2016
- Alfred P. Sloan Foundation Research Fellow 2014

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