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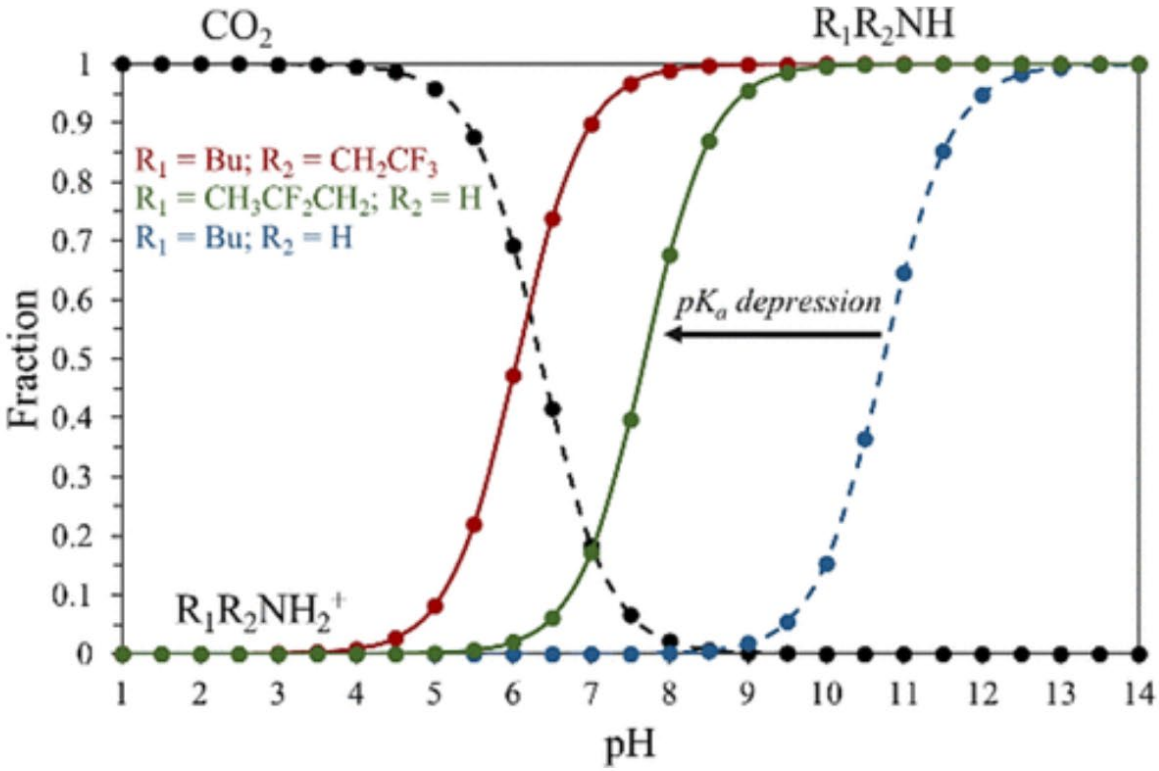
Paper proves fluorination allows for CO2 capture from air at neutral pH

Posted by Kimber Crull
On October 3, 2023



The *Journal of Organic Chemistry* published in its Aug. 2 issue an article by Dr. Brian Jameson and Kari Knobbe, both S&T alumni, and Dr. Rainer Glaser, professor of chemistry at S&T. The article is titled "Nuclear Magnetic Resonance Study of CO2 Capture by Fluoroalkylamines: Ammonium Ion pKa Depression via Fluorine Modification and Thermochemistry of Carbamylation."

Jameson earned a Ph.D. in chemistry from S&T earlier this year and Knobbe earned a bachelor's degree in chemistry from S&T in 2022.

Knobbe pursued research for many years with Opportunities for Undergraduate Research Experiences (OURE) scholarships and National Science Foundation funding, and she is now employed at Pfizer in St. Louis. Jameson completed his Ph.D. program in under five years with NSF support, and he just started a post-doctoral fellowship at the University of Illinois Urbana-Champaign.

Glaser's research group is developing energy-efficient and reversible carbon capture and release (CCR) systems.

"In the present paper, we demonstrate that the same pKa depression can be achieved by lysine fluorination in small biomimetic CCR tetrapeptide," says Glaser.

Read more about the group's research at glaserr.missouri.edu/index.html.

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