Photoinduced self-stirring crystals caused by gas release

Upasana Banerjee[a], Jeanette A. Krause[b] and Anna D. Gudmundsdottir[c]

[a]Department of Chemistry, University of Cincinnati, Cincinnati, Ohio 45221-0172, USA,
banerjua@mail.uc.edu
[b]Krauseje@ucmail.uc.edu
[c]gudmunad@ucmail.uc.edu

Azido photochemistry has gained a lot of interest recently due to their versatile application in synthesizing pharmaceutically significant heterocycles. We report a sustainable approach of synthesizing pyrrole from dieneazide derivatives using visible light LEDs and sunlight in crystals. Optical microscopy reveals self-stirring photodynamic response of the dieneazide crystals and was correlated with the intermolecular forces inside the crystal lattice to investigate the basis of high photo conversion in the solid-state.