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Experimental Study of Brownian Dynamics of Bent-core Colloidal Particles CHUN-ZHEN FAN, BHUWAN JOSHI, Kent State University, JI-PING HUANG, Fudan University, QI-HUO WEI, Kent State University — Bent-core or banana-shaped molecules exhibit a variety of intriguing liquid crystalline mesophases including nematics and smectic phases. We try to develop suspensions of bent-core shaped colloidal particles to mimic the bent-core liquid crystals. This report will focus on the fabrication of bent-core colloidal particle suspension, and optical microscopic studies of the Brownian dynamics of individual bent-core colloidal particles. The bent-core colloidal particles confined between two glass substrates are observed through dark-field optical microscopy, and their orientation and position are obtained through imaging processing. Results on the translational and rotational Brownian dynamics of these type of particles will be reported.

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