

Abstract Submitted  
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**Optimized assembly and steady-state length-scale control in dissipative systems of photo-switchable colloids**<sup>1</sup> ANTONIO OSORIO-VIVANCO, University of Michigan, MONICA OLVERA DE LA CRUZ, Northwestern University, SHARON GLOTZER, University of Michigan — Photo-switchable nanoparticles, such as those developed by Wei et al.,<sup>2</sup> can be assembled into a broad range of structures using light exposure as a control parameter. Jha et al.<sup>3</sup> explored the evolution of these structures using kinetic Monte Carlo simulations. In this work, we build on these studies using Molecular Dynamics with a Langevin thermostat to, by judicious choice of exposure parameters that control the dissipative nature of the system, engineer and optimize the self-assembly pathways as well as control the length scales of the steady-state structures.

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<sup>2</sup>Y.H. Wei, S. B. Han, J. Kim, S. L. Soh and B. A. Grzybowski, *J. Am. Chem. Soc.*, 2010, 132, 11018-11020.

<sup>3</sup>P.k. Jha, V. Kuzovkov, B.A. Grzybowski, and M. Olvera del la Cruz, *Soft Matter*, 2012, 8, 227-234

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