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Organic Single Crystal Thermochromic Materials
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So far, we have produced two publications from the funding of this proposal (M. Dharmarwardana, R. P. Welch, S. Kwon, V. K. Nguyen, G. T. McCandless, M. A. Omary, J. J. Gassensmith *Chem. Commun.* **2017,** *53*, 9890–9893 and M. Dharmarwardana, B. S. Arimilli, M. A. Luzuriaga, S. Kwon, H. Lee, G. A. Appuhamillage, G. T. McCandless, R. A. Smaldone, J. J. Gassensmith *CrystEngComm* **2018**) and are working on two more. We have requested and received an extension to continue this work.

Briefly: we have discovered a fully reversible martanistic single crystal of NDI that contracts by 10% upon heating. This material has been interfaced with electronics. The thermal actuation occurs at approximately 40 degrees centigrade (just above body temperature) which suggests it has promise for thermally actuated materials powered by body heat. Further work is occurring on this project and we anticipate a full report and publication in 2020.