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**Supramolecular Construction of a Family of Molecular Targets in Cocrystals Based on Linear Templates.** T. Frišćić, L.R. MacGillivray, Dept. of Chemistry, Univ. of Iowa, 305 Chemistry Bldg., Iowa City, IA 52242 USA.

Template-controlled solid-state synthesis directs the organization of molecules *via* linear templates to control reactivity in solids. Specifically, the design involves resorcinol molecules as templates to direct [2+2] photodimerization of olefins within hydrogen-bonded cocrystals. We have recently shown the synthetic potential of the method in conducting reactions of molecules differing in length and the number of reaction centers. Thus, a paracyclophane and [n]-ladderane targets were constructed in quantitative yields and gram amounts. In order to bring the approach to a higher level of synthetic applicability, we now explore the ability to direct reactivity of molecules with different shapes. Specifically, we targeted the synthesis of remaining members of the [2.2]-cyclophane family, *i.e.* the *meta*- and the *ortho*-cyclophane. Through the application of template-switching strategy, both targets were obtained quantitatively and in gram amounts. This contribution presents the first example of an entire family of molecular targets being constructed in the solid state.

