Syntheses in a Ball Mill

**Significance:** The authors report the syntheses of cage-like molecules represented by $1$ in the scheme above to demonstrate the utility of solid-state reactions in a ball mill. The synthesis of $1$ involves the formation of 18 new covalent bonds and proceeds very efficiently in a ball mill.

**Comment:** The authors report that the solvent-free synthesis of $1$ proceeds in 94% yield in a ball mill while the same reaction in ethanol and tetrahydrofuran gives only 56% and 24% yield, respectively.