

## Synthesis of $\beta$ -SiC nanofiber using PMOs as a single precursor

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There have been several attempts to synthesize SiC using mesoporous silica with various carbon sources or mesoporous carbon materials with silica additives. The motivation behind these attempts is to prepare SiC with reagents having large surface area to accomplish high degree of homogeneous mixing to improve the physicochemical properties of SiC produced. These works involved SiC synthesis starting from separate sources of silica and carbon, but we decided to test a mesoporous hybrid material in which both silicon and carbon species are incorporated together in one substrate as a precursor for SiC. In this work, highly crystalline  $\beta$ -SiC nanofiber was successfully synthesized using PMOs (Periodic Mesoporous Organosilicas) as a single precursor/structure binder without any additives by pyrolyzing the template-free PMOs for 5 h at 1400 °C under Ar atmosphere.