

## Supporting information

### One-Pot Synthesis of Silicon Carbide from a Non-Formalin Iminosilane-Resorcinol Composite

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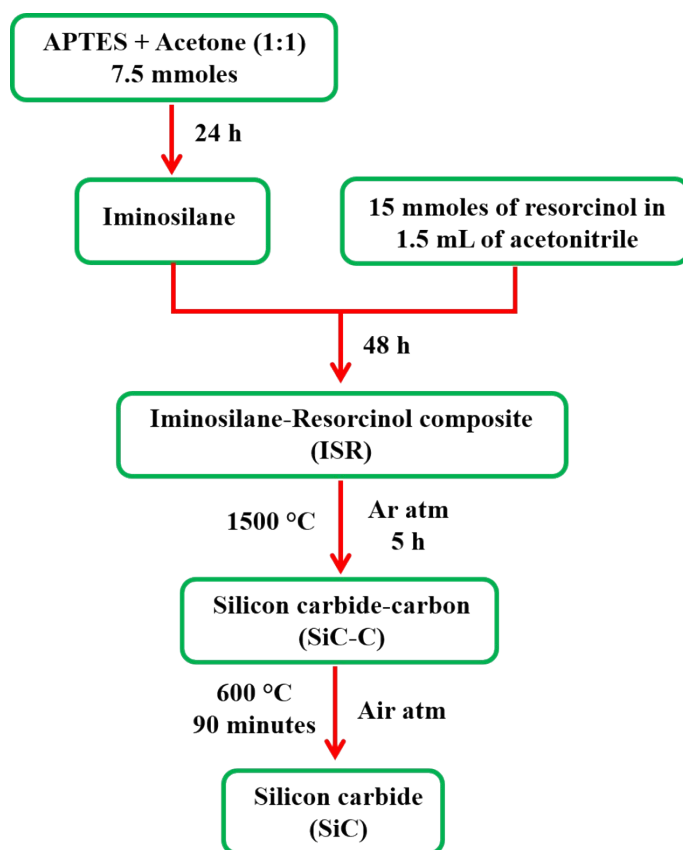


Figure S1. Schematic representation of the synthesis of SiC using iminosilane resorcinol (ISR) composite by carbothermal reduction.

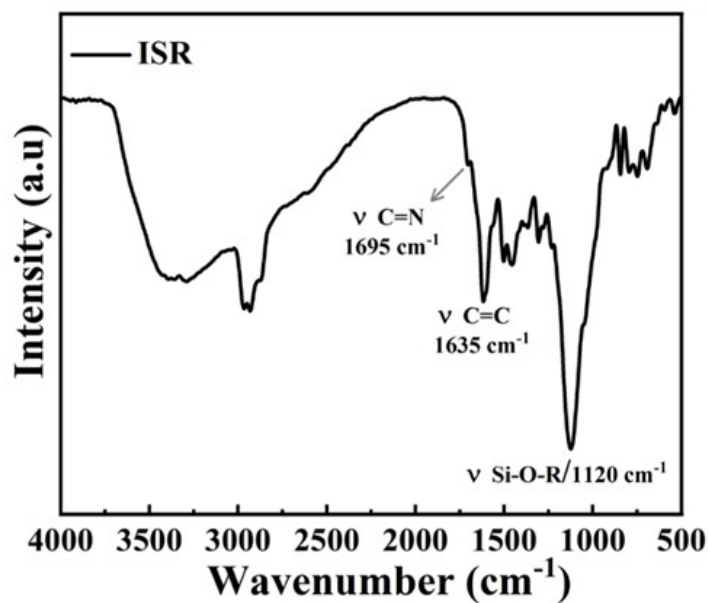


Figure S2. FTIR of Iminosilane resorcinol (ISR).

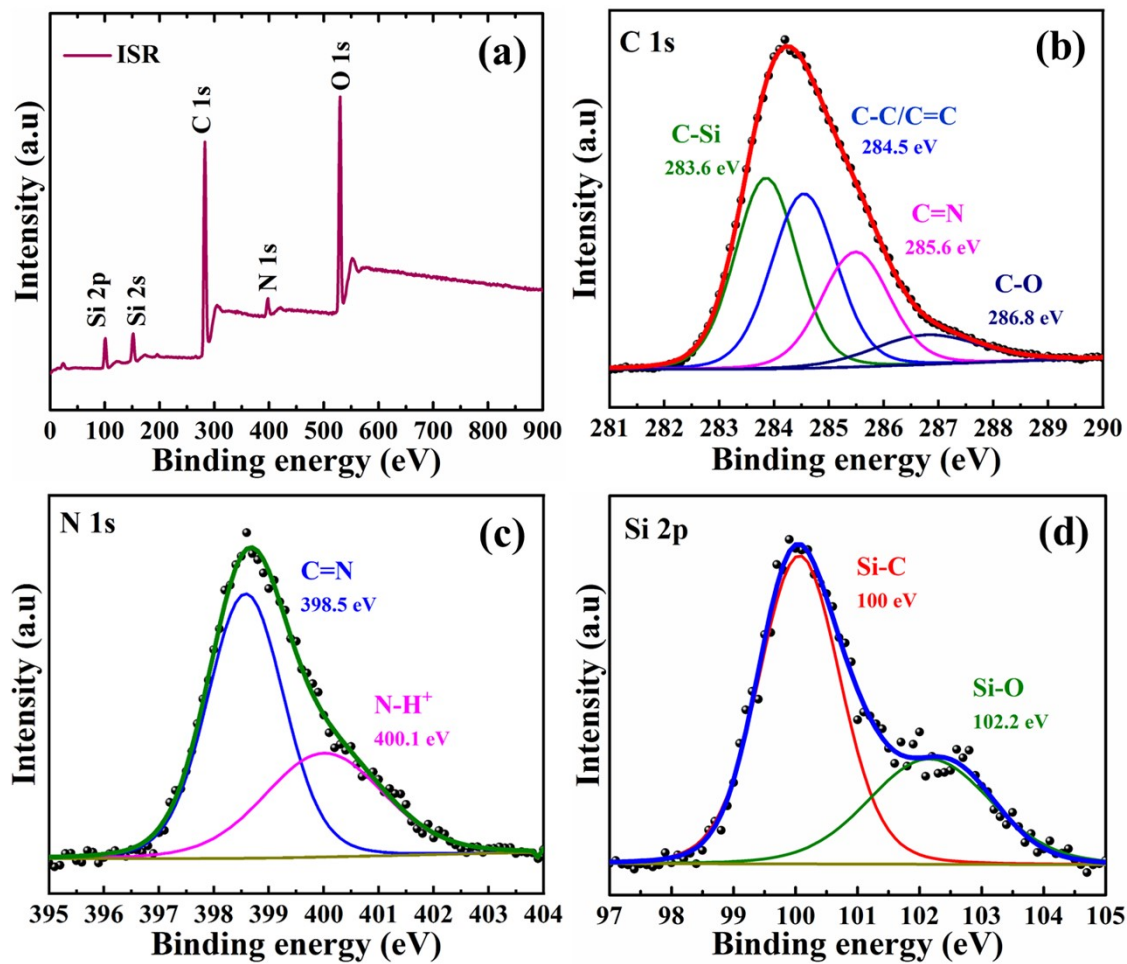


Figure S3. (a) XPS survey spectrum and (b-d) deconvoluted high-resolution C 1s, N 1s, and Si 2p spectra.

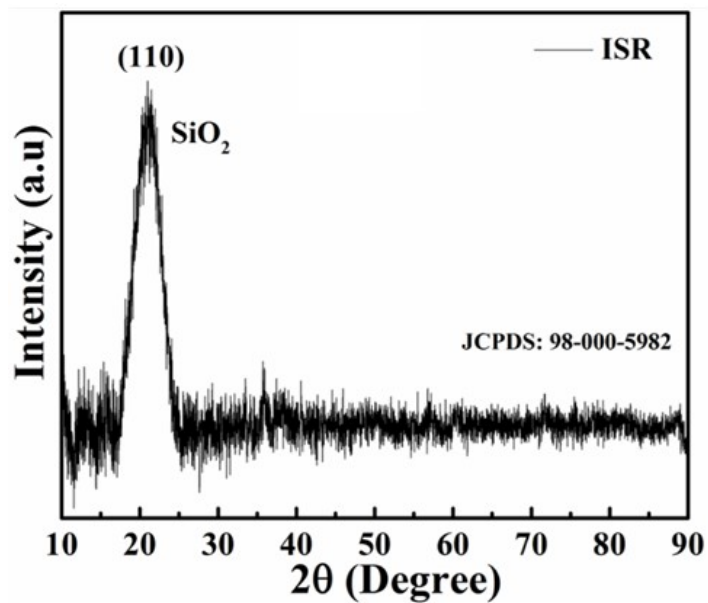


Figure S4. XRD pattern of Iminosilane resorcinol (ISR).

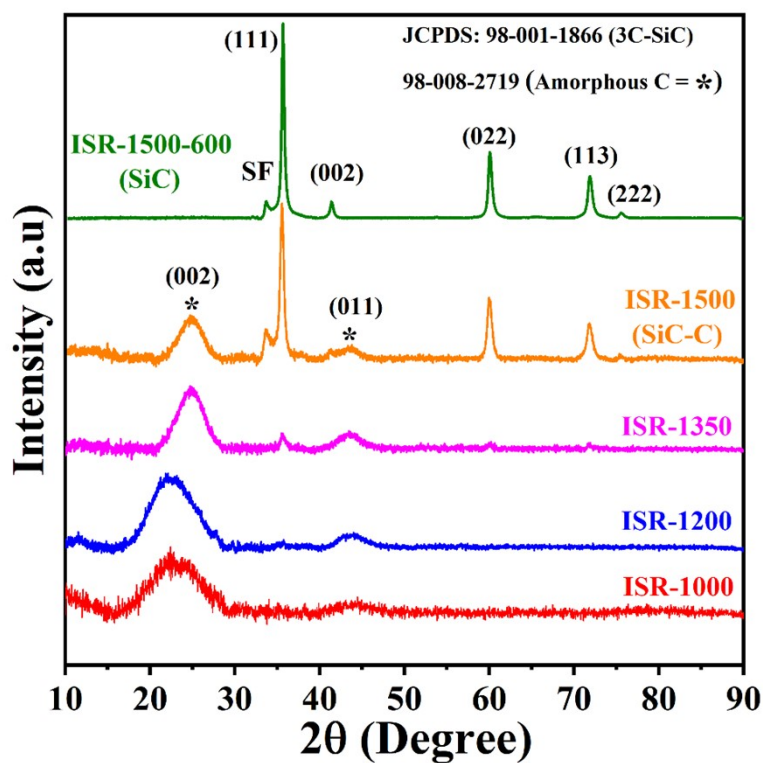


Figure S5. XRD pattern of ISR pyrolyzed samples at different temperatures (1000, 1200 1350 and 1500 °C).

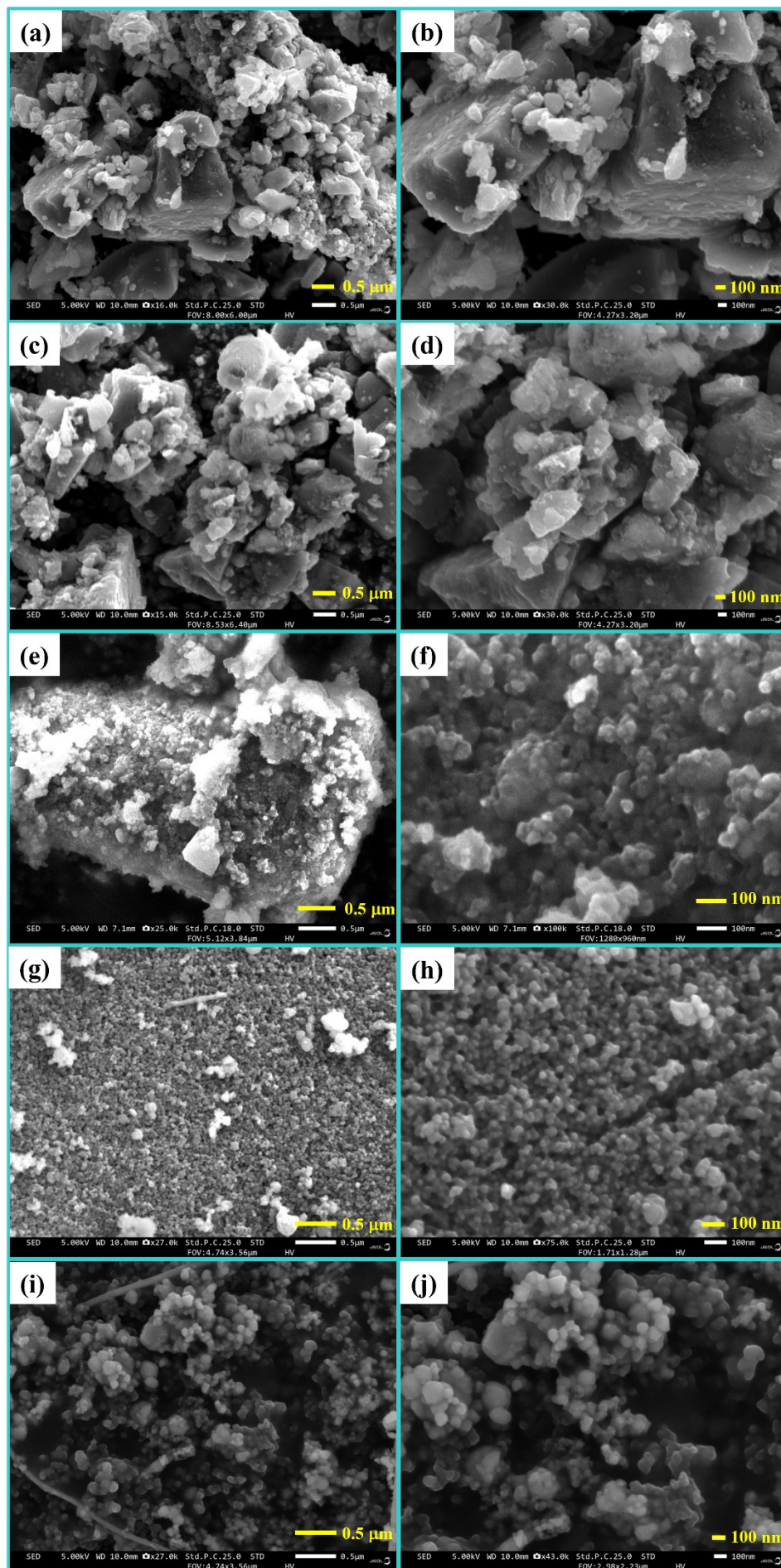


Figure S6. FESEM images of (a, b) ISR-1000, (c, d) ISR-1200, (e, f) ISR-1350, (g, h) ISR-1500 and (i, j) ISR-1500-600 at different magnifications (0.5 μm and 100 nm).

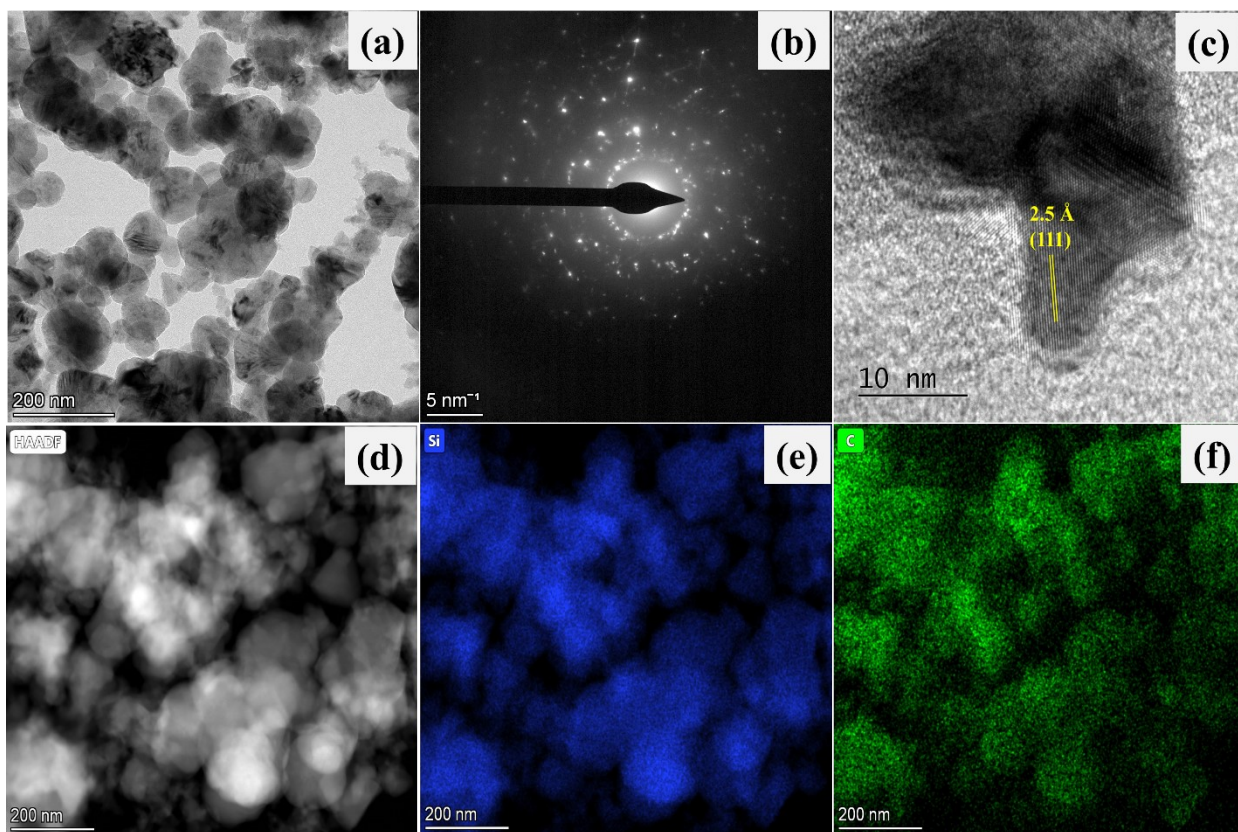


Figure S7. HRTEM image of ISR-1500 (SiC-C) (b) SEAD pattern, (c) lattice fringes, (d-f) HAADF with high resolution elemental mapping of Si and C.

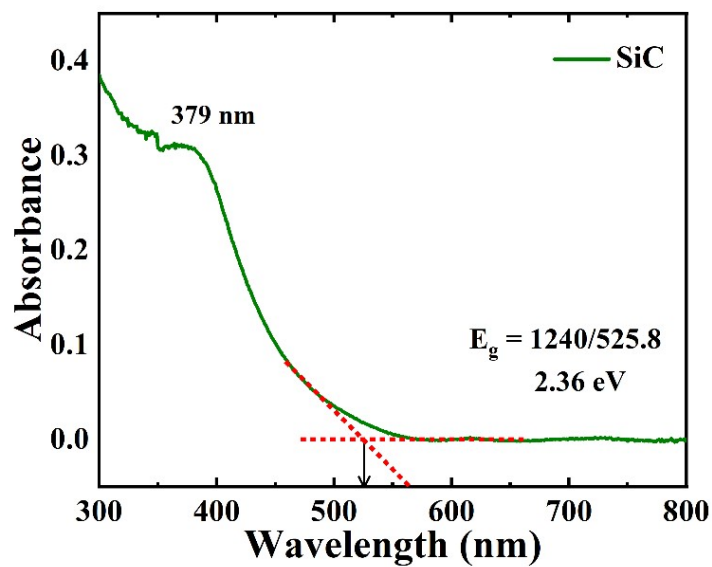


Figure S8. UV-DRS spectra of ISR-1500-600 (SiC).

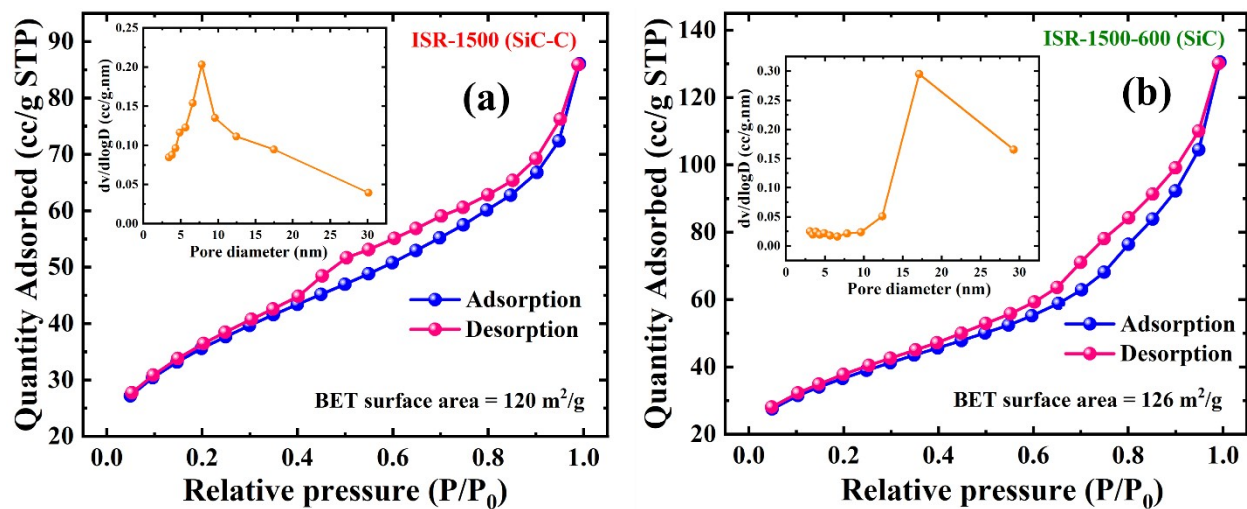


Figure S9. BET isotherms of (a) ISR-1500(SiC-C) and (b) ISR-1500-600 (SiC) and corresponding BJH desorption plots (inset).

S. No	Precursors		Surface area (m <sup>2</sup> /g)	References
	Si source	C source		
1	SiO <sub>2</sub>	Carbon powder	0.2 – 2.8	Journal of the American Ceramic Society, 1983, 66.7, c111-c113.
2	Tetramethylsilane	Carbon powder	34	Applied Catalysis. 1986, 20, 91-107.
3	SiO Vapor	Activated carbon	~ 60	Journal of catalysis. 1988, 114, 176-185.
4	SiO <sub>2</sub>	Activated carbon	30	Applied Catalysis A: General. 1998, 167.2, 321-330
5	silicon powder	MWCNT	60	Key Eng. Mater. 2008, 368, 647.
6	SiO <sub>2</sub> sphere templates	Polycarbosilane	619	Journal of Materials Chemistry. 2004 14.23, 3436-3439.
7	Phenyltrimethoxysilane	Phenyltrimethoxysilane	450	Industrial & engineering chemistry research. 2004, 43.16, 4732-4739
8	Orthosilicate	Resorcinol-formaldehyde (RF) Aerogels	232	Microporous and Mesoporous Materials, 2012, 149, 16-24.
9	SiO <sub>2</sub> Aerogels	RF Aerogels	251	Materials Letters. 2013, 99, 108-110
10	Orthosilicate Aerogels	RF Aerogels	328	Ceramics international. 2014, 40.6, 8265-8271.
11	3-aminopropyl triethoxysilane (APTES)	Resorcinol (without formaldehyde)	126	This work

**Table S1. Comparison of SiC precursors and surface area.**