Supporting Information

NH$_3$-assisted synthesis of microporous silicon oxycarbonitride ceramics from preceramic polymers: a combined N$_2$ and CO$_2$ adsorption and small angle X-ray scattering study

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Figure S1. The tangent method illustrated for HTT600NHAr.
Figure S2. \( \text{N}_2 \) adsorption isotherms for SMP600NH, SMP600NHAr, and SMPAr (a) and \( \text{CO}_2 \) adsorption isotherm for SMP600NHAr (b).

Figure S3. FTIR spectra of HTT600NH and SPR600NH samples. For HTT600NH sample, bands located at 3387 cm\(^{-1}\) and 1185 cm\(^{-1}\), correspond to \( \nu(\text{N-H}) \) vibrations and \( \gamma(\text{N-H}) \) deformation bands of Si-NH-Si, respectively. The dominant bands around 900-1000 cm\(^{-1}\) are attributed to Si\(_2\)N vibrations. For SPR600NH sample, weak bands at 3450 cm\(^{-1}\) and 960 cm\(^{-1}\) correspond to Si-OH bonds.
Figure S4. SAXS curves of specimens derived from polycarbosilane, polysiloxane, and polysilazane precursors. For the sample notation, see Figure 1 b in the main manuscript.
Figure S5. Different SAXS profiles: a) Type 1, b) Type 2, and c) Type 3. For details see section 3.5 in the main manuscript.