

Supplementary Materials

Microstructure and properties of porous Si_3N_4 ceramics with high porosity and strength via gel casting-SHS

Shile Chen^a, Liang Wang^b, Gang He^b, Jiangtao Li^b, Chang-An Wang^a

^aState Key Laboratory of New Ceramics and Fine Processing, School of Materials Science and Engineering, Tsinghua University, Beijing 100084, China

^bCAS Key Laboratory of Cryogenics, Technical Institute of Physics and Chemistry, Chinese Academy of Science, Beijing 100190, China

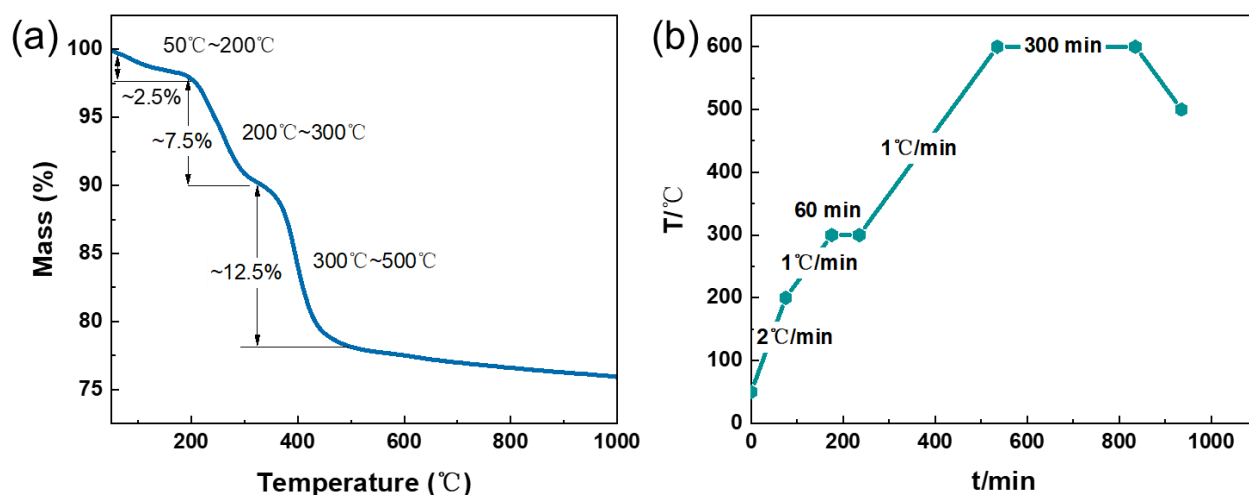


Fig. S1 TG curve and binder removal curve of gel casting body.

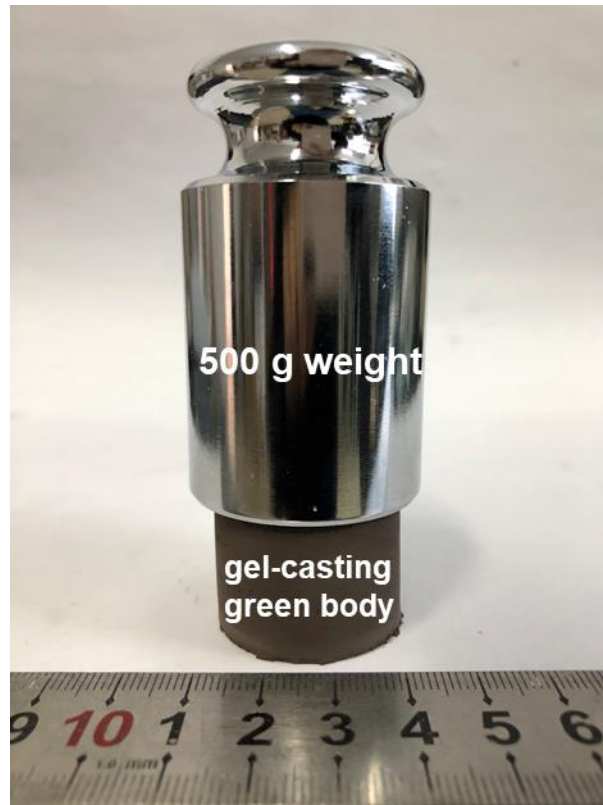


Fig. S2 Photo of gel casting body bearing 500 g.

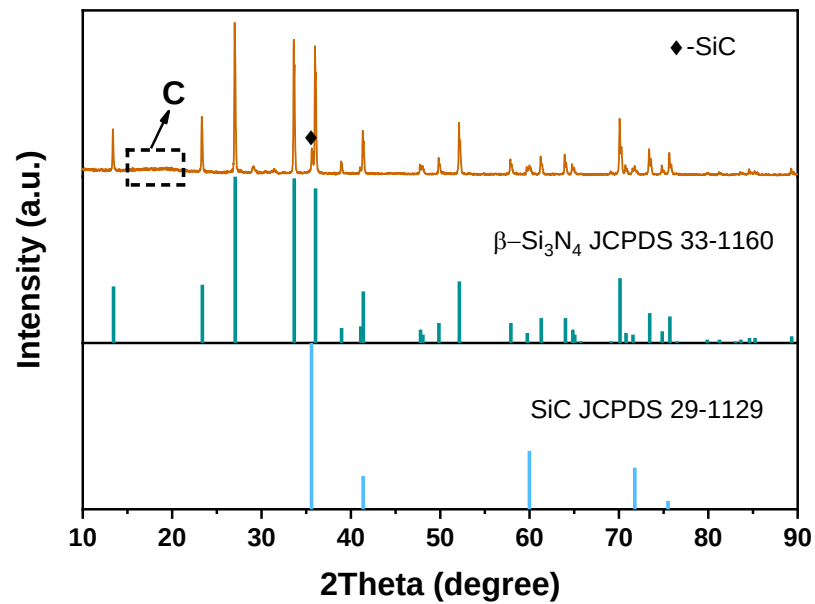


Fig. S3 XRD pattern of porous Si₃N₄ ceramics without binder removal treatment.

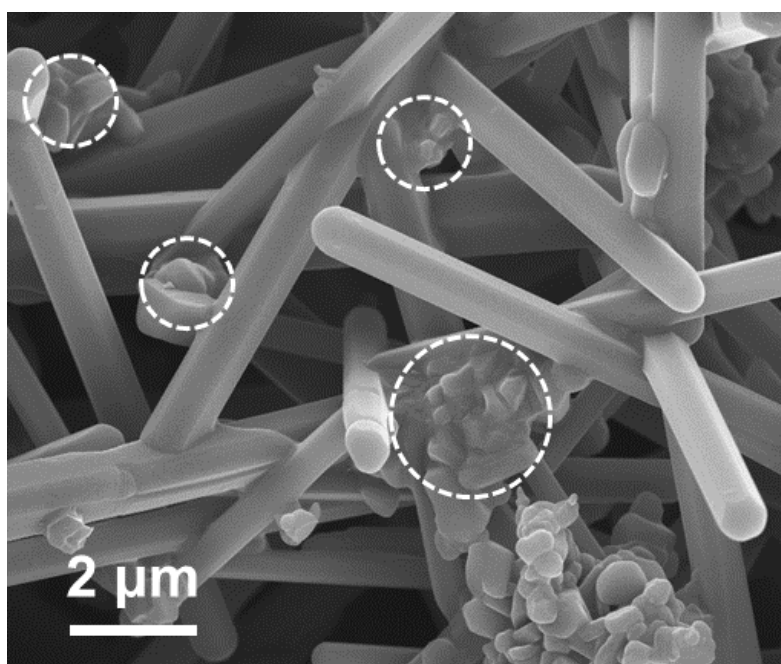


Fig. S4 SEM image of porous Si_3N_4 ceramics with 15 vol% solid content.

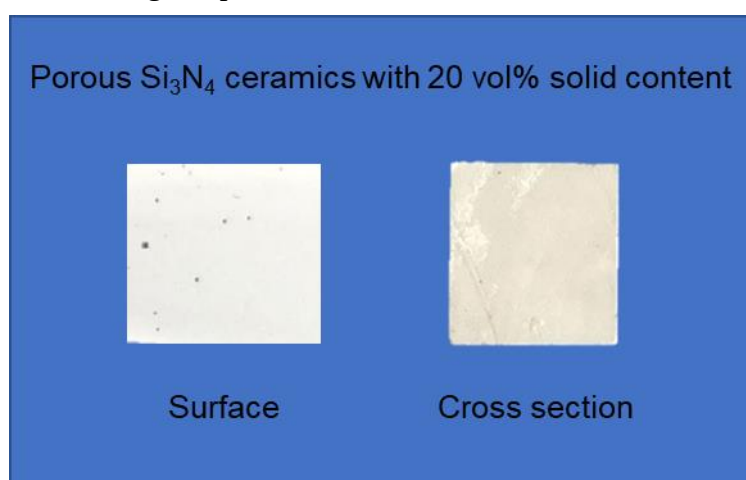


Fig. S5 Photo of porous Si_3N_4 ceramics with 15 vol% solid content.

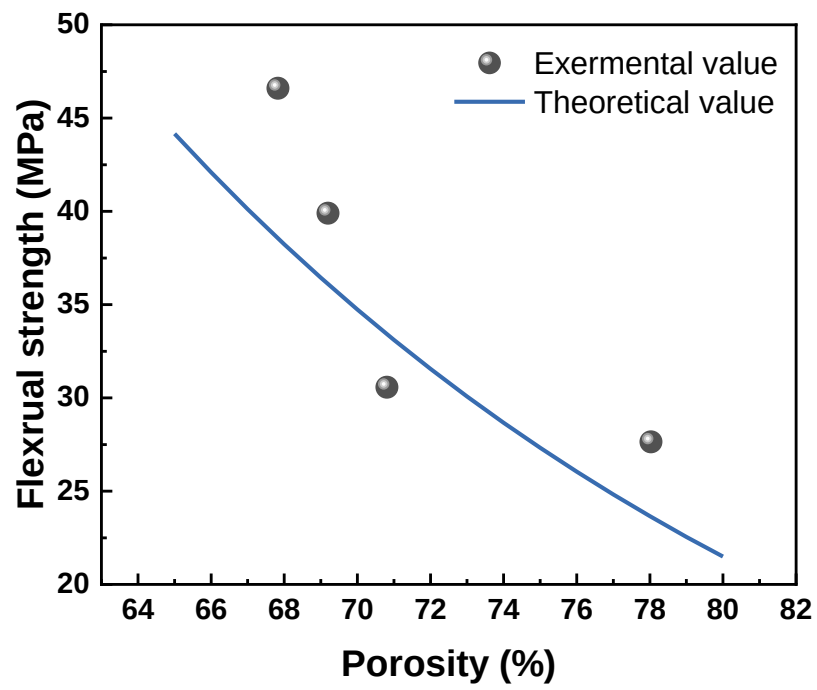


Fig. S6 Strength and porosity curve of the theoretical and experimental values.

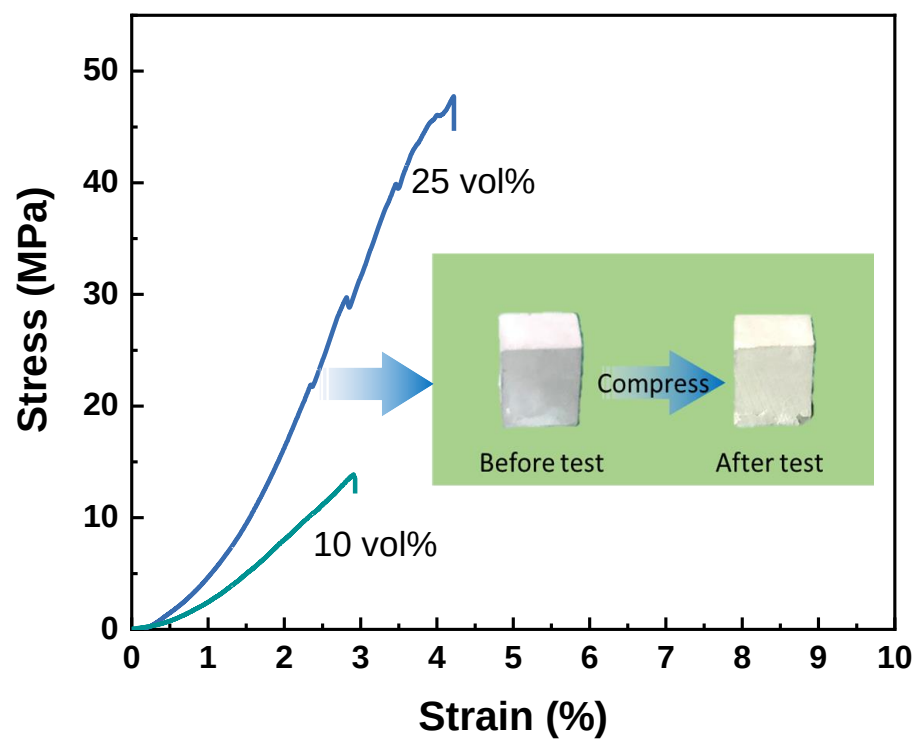


Fig. S7 Stress-strain curve of porous Si_3N_4 ceramics with 25 vol% and 10 vol% solid content.