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Article

Rheological and Curing Behavior of Acrylate-Based Suspensions for the DLP 3D Printing of Complex Zirconia Parts

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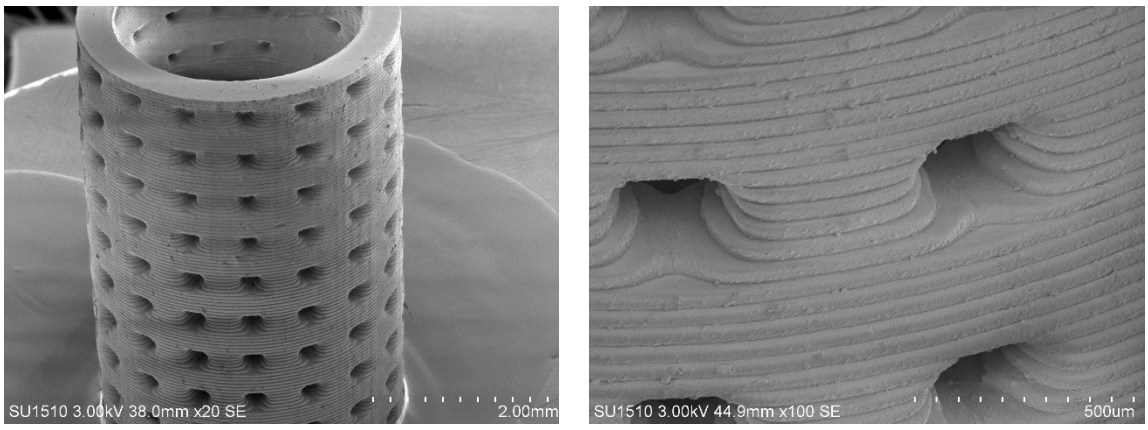
Table S1. Calculated power law parameters (dashed curves) for acrylate-based suspensions with YSZ powders and surfactants in a shear rate region of 10–200 s^{-1}.

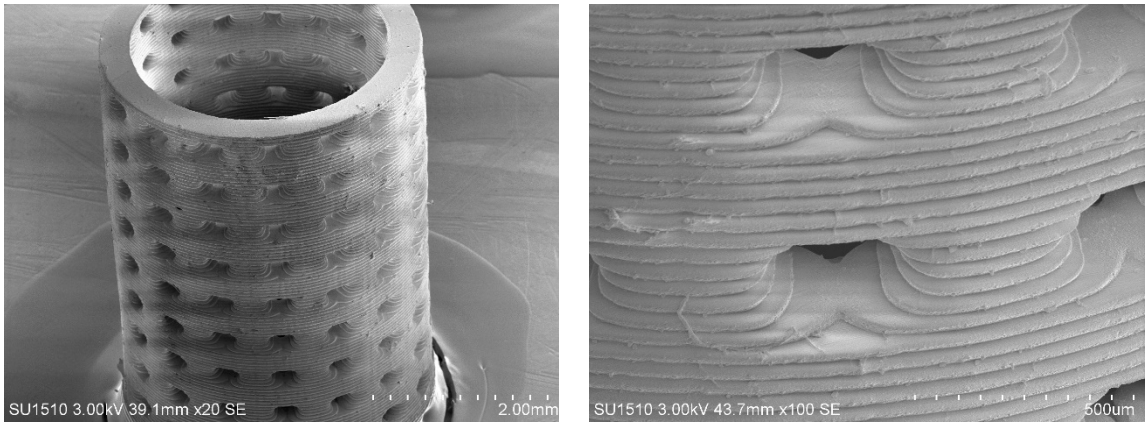
Suspension	$Log_{10} K$	n-1	R^2
20% 8YSZ/HDDA/BYK w969—Figure 2a	1.05(3)	−0.72(2)	0.990
20% 8YSZ/HDDA/BYK w996—Figure 2a	1.56(1)	−0.77(1)	0.998
20% 8YSZ/HDDA/Triton X-45—Figure 2a	1.85(3)	−0.89(2)	0.994
20% 8YSZ/HDDA/Triton X-114—Figure 2a	1.93(3)	−0.93(2)	0.992
20% 8YSZ/HDDA/2 mg BYK w969—Figure 2b	1.69(1)	−0.94(1)	0.999
20% 8YSZ/HDDA/3 mg BYK w969—Figure 2b	1.07(2)	−0.73(1)	0.994
20% 8YSZ/HDDA/4 mg BYK w969—Figure 2b	0.95(2)	−0.73(2)	0.995
28% 8YSZ/HDDA/3 mg BYK w969—Figure 3	1.60(1)	−0.76(1)	0.998
28% 3YSZ/HDDA/3 mg BYK w969—Figure 3	1.15(2)	−0.69(1)	0.996
28% 8YSZ/IBOA-TMPTA/3 mg BYK w969—Figure 5	0.84(1)	−0.51(1)	0.995
28% 8YSZ/IDA-TMPTA/3 mg BYK w969—Figure 5	1.20(1)	−0.69(1)	0.996

The power law expression: $\eta = K\gamma^{n-1}$, where η is viscosity, γ is shear rate, K is a consistency index, n power law index.



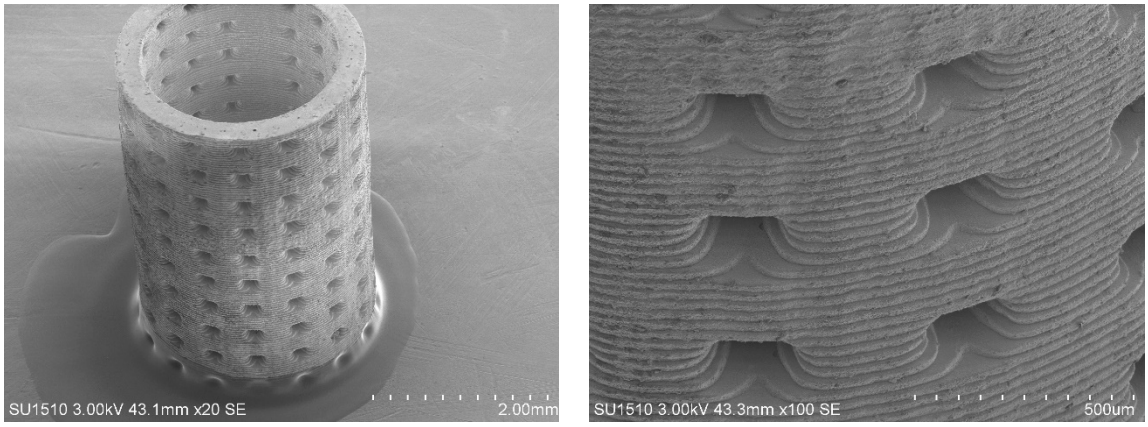
(a) **(b)**

Figure S1. The fabricated green bodies derived from IBOA-TMPTA suspensions with 33 vol.% 3YSZ (50 μm layer thickness)—(**a**) ×20 and (**b**) ×100 magnification.



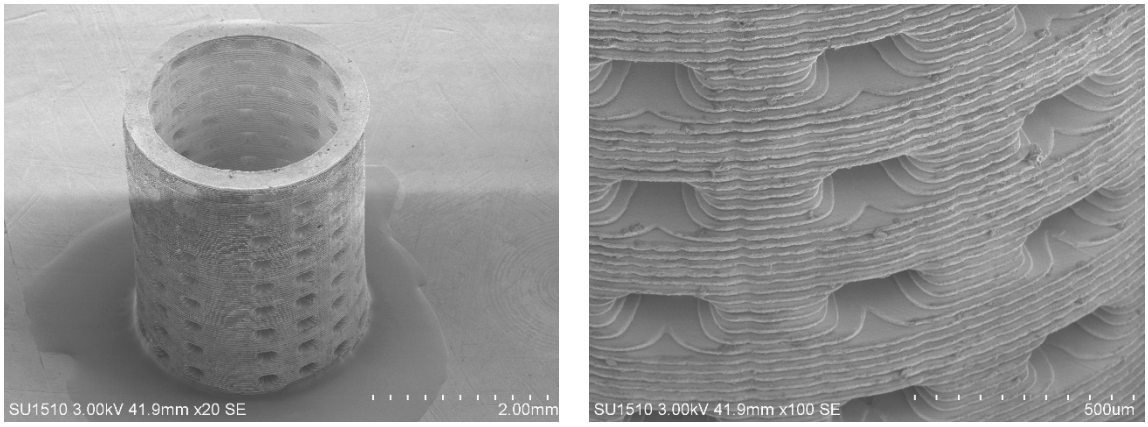
(a) **(b)**

Figure S2. The fabricated green bodies derived from IDA-TMPTA suspensions with 33 vol.% 3YSZ (50 μm layer thickness)—(**a**) ×20 and (**b**) ×100 magnification.



(a) **(b)**

Figure S3. The fabricated 3YSZ ceramic derived from IBOA-TMPTA suspensions (**a**) ×20 and (**b**) ×100 magnification.



(a) **(b)**

Figure S4. The fabricated 3YSZ ceramic derived from IDA-TMPTA suspensions (**a**) ×20 and (**b**) ×100 magnification.

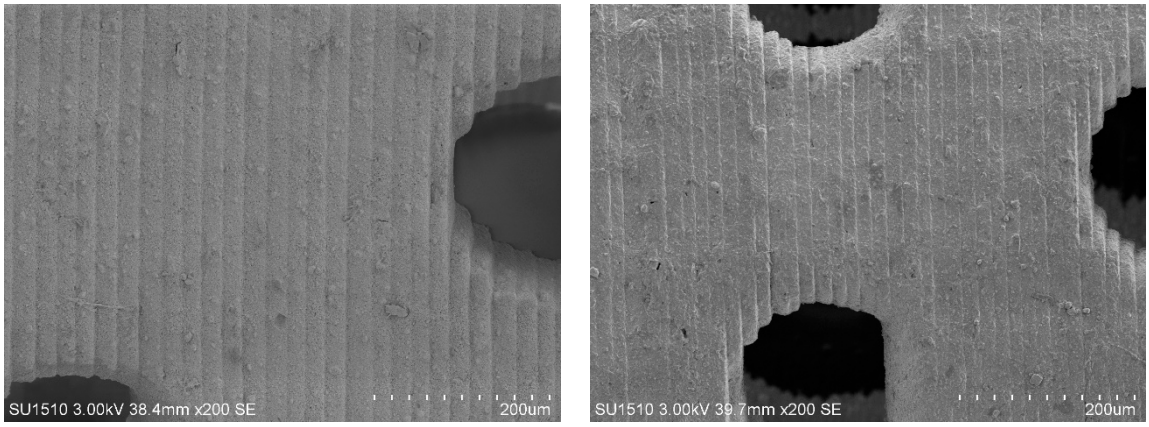


Figure S5. (**a**) The fabricated green bodies derived from IBOA-TMPTA suspensions with 33 vol.% 3YSZ (25 μm layer thickness); (**b**) The fabricated 3YSZ ceramic.

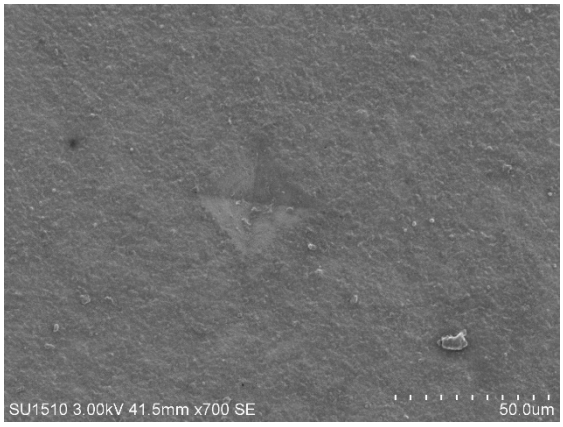


Figure S6. Representative SEM micrograph of a Vickers indent (1 kgf load) of 3YSZ ceramic.

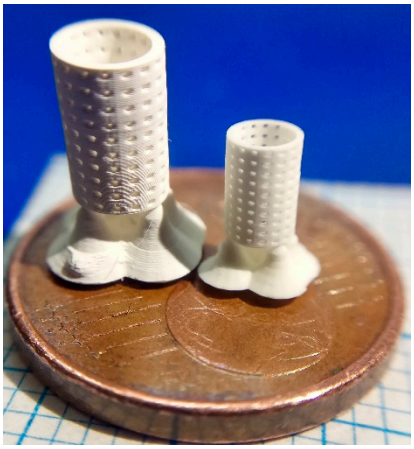


Figure S7. Optical image of green and sintered body derived IDA-TMPTA suspensions.

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