

Atmospheric pressure plasma liquid assisted deposition of polydopamine/acrylate copolymer on zirconia (Y-TZP) ceramics: a biocompatible and adherent nanofilm

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3. Results and discussion

3.1. Success of atmospheric-pressure plasma deposition of poly(EGDMA-co-DOMAm) in zirconia substrates activated by oxygen plasma

Table S1. Chemical composition and main properties of 3Y-TZP discs.

Chemical composition	ZrO ₂	Y ₂ O ₃	Al ₂ O ₃
	94.55 %	5.2 %	0.25 %
Sintering temperature	1450 °C		
Density	6.05 g/cm ³		
Hardness	14-15 GPa		
Young's modulus	230 GPa		
Dielectric constant [1 MHz]	32.7		
Dielectric loss [1 MHz]	0.006		
Thermal conductivity	3 W/(m·K)		
Thermal expansion	9.6 × 10 ⁻⁶ m/°C (25–300 °C)		

Table S2. XPS atomic composition of the zirconia disc sample coated with pPoly(EGDMA-co-DOMAm) by atmospheric plasma deposition.

Element	Atomic concentration (%)
C 1s	63.0
O 1s	30.7
N 1s	1.4
Zr 3d	4.3
Y 3d	0.6

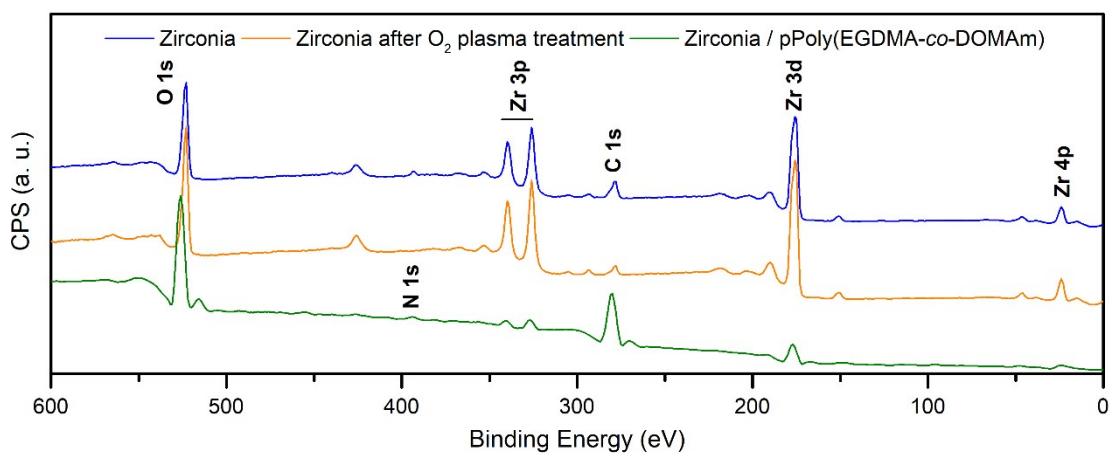


Figure S1. Survey XPS spectra of the pristine zirconia discs (upper plot), after standard oxygen plasma treatment protocol (SP) (middle plot) and coated with pPoly(EGDMA-*co*-DOMAm) (bottom plot).

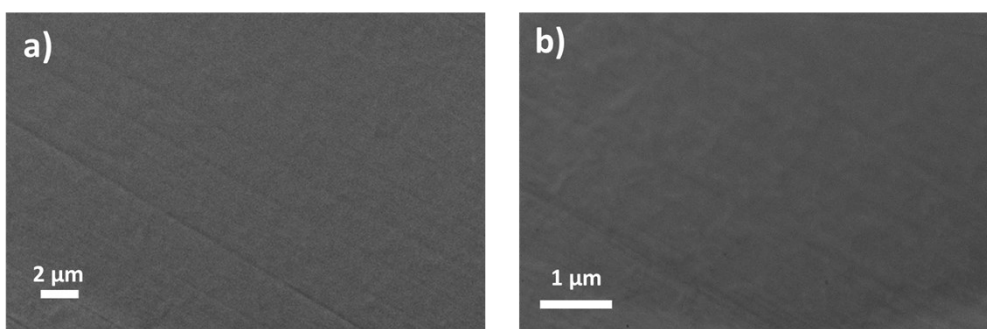


Figure S2. SEM micrographs taken from the pPoly(EGDMA-*co*-DOMAm) film surface, after LA-APPiP polymerization: a) 5 kX of magnification and b) 15 kX of magnification.