

Supplementary Materials

Nanostructured Ceramic Membranes for Hydrogen Separation

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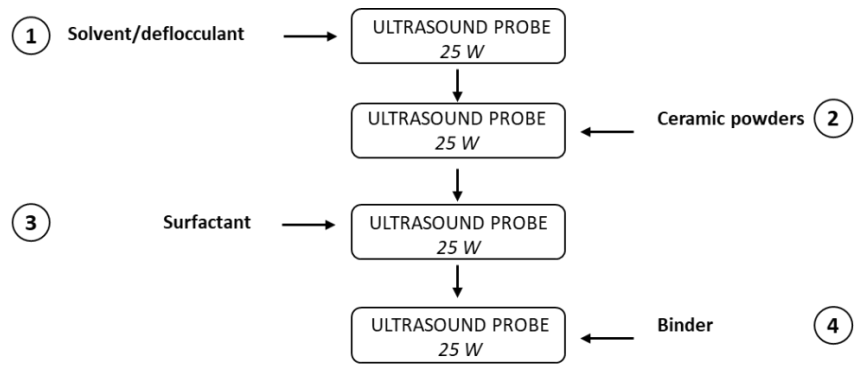


Figure S 1. Schematic representation of the production process for the washcoat slurries.

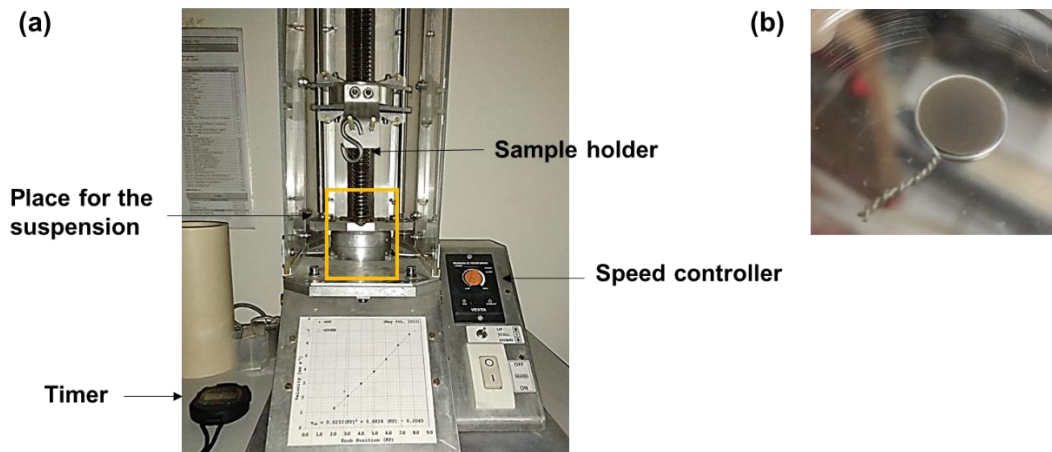


Figure S 2. Picture of the home-made dip coater (a) and a typical sample (b) employed for the production of the washcoats.

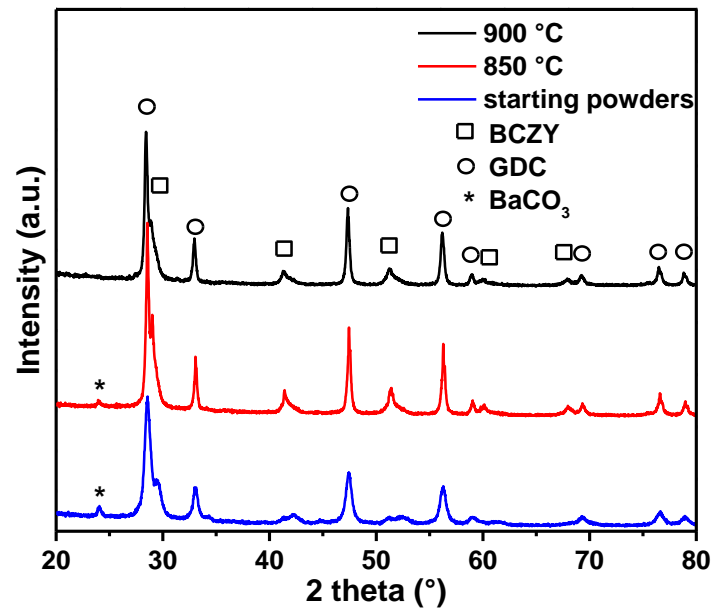


Figure S 3. XRD analysis on the obtained washcoatings consolidated at different temperatures.

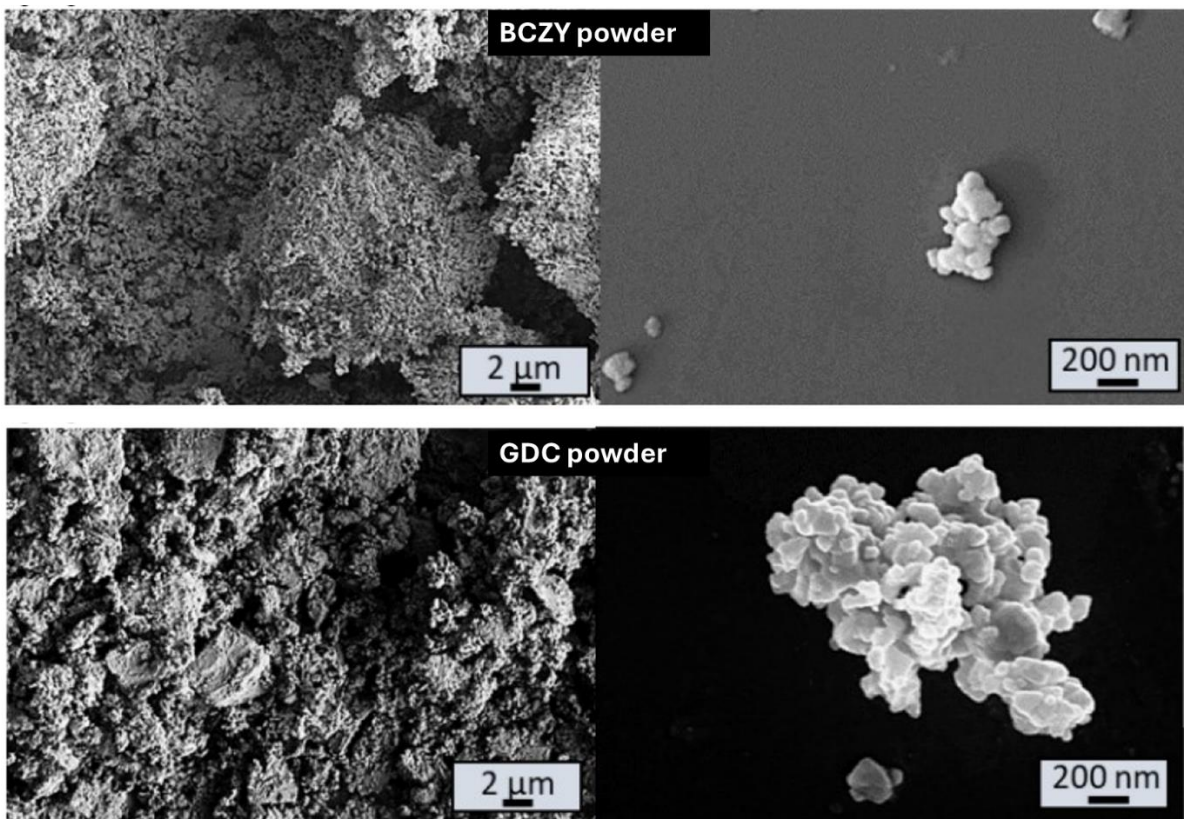


Figure S 4. SEM micrographs of the as-received BCZY and GDC powders used to prepare the aqueous suspensions for dip coating.

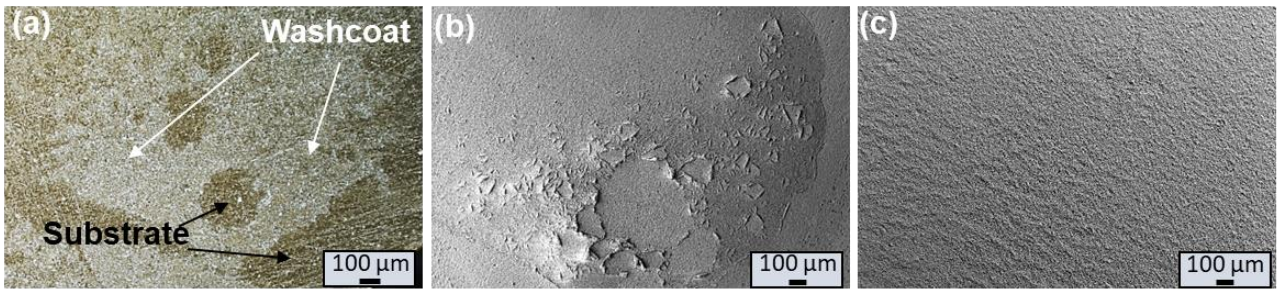


Figure S 5. Optical (a) and SEM (b) images showing typical defects occurring without the centrifugation step after dip coating; SEM micrograph of the washcoating obtained when the excess of solution is removed after dip coating (c).

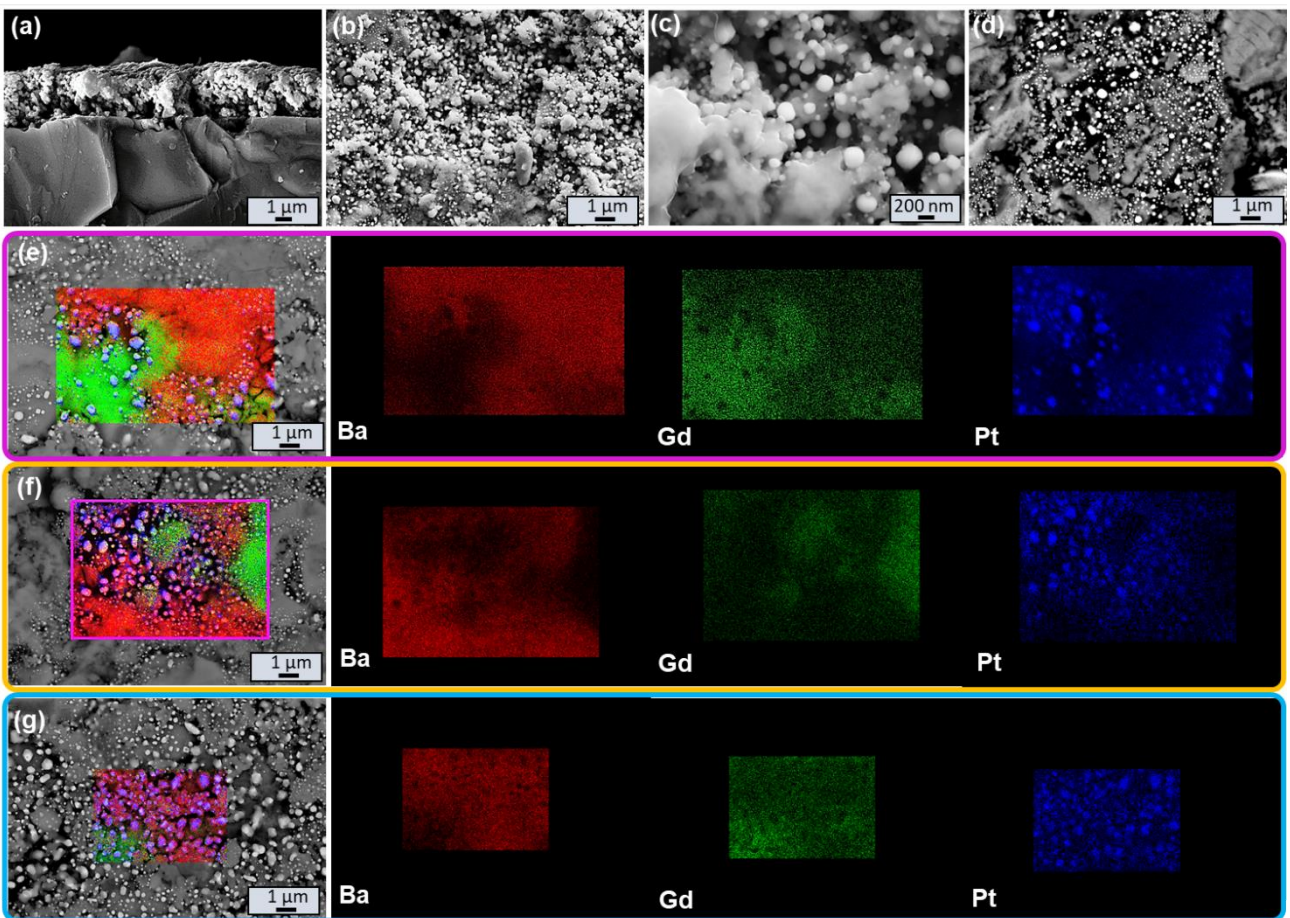


Figure S 6. Post mortem microstructural analysis performed on BCZY-GDC-WC membrane: SEM micrographs of the cross section (a) and the surface (b,c) obtained with SE detector, and BsD detector (d). BSD micrographs coupled with EDX elemental analysis of the surface of the WC-membrane in different sites (e-g). The Ba mapping is related to the BCZY phase, while Gd distribution is linked to the GDC phase.