

## **Mechanisms induced by transition metal contaminants and their effect on the hydrothermal stability of zirconia-containing bioceramics: an XPS study**

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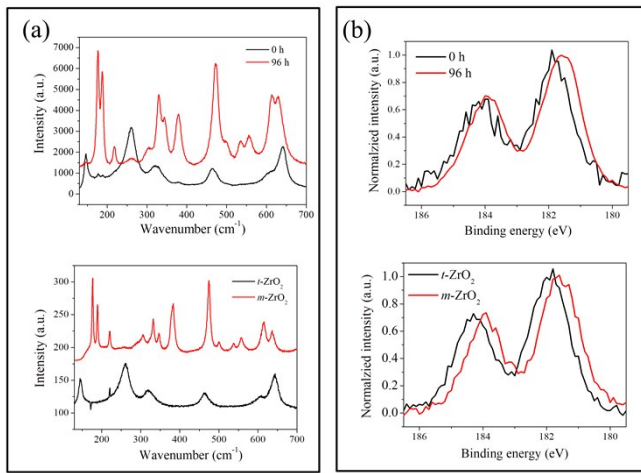
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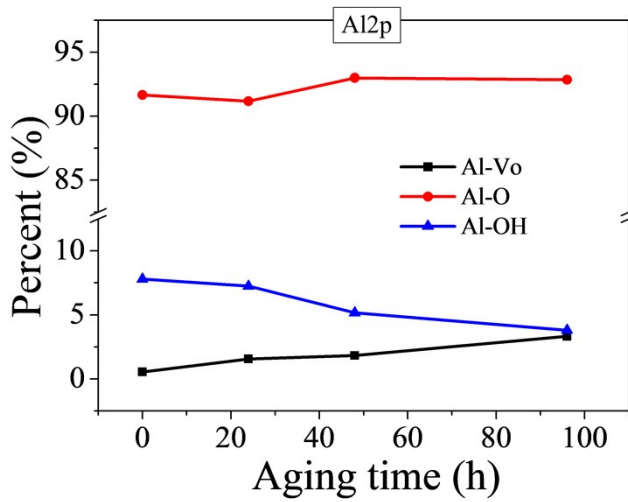
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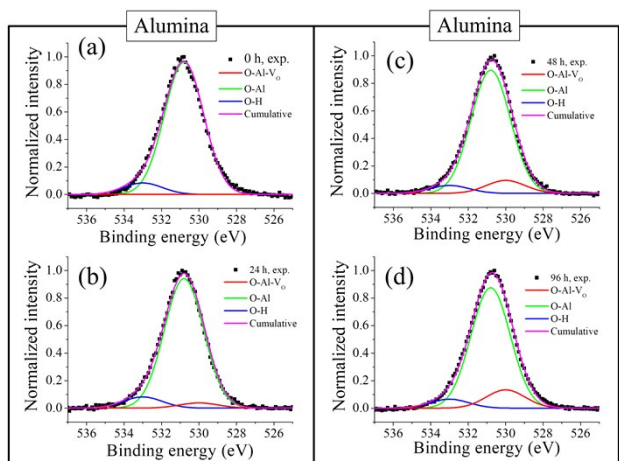
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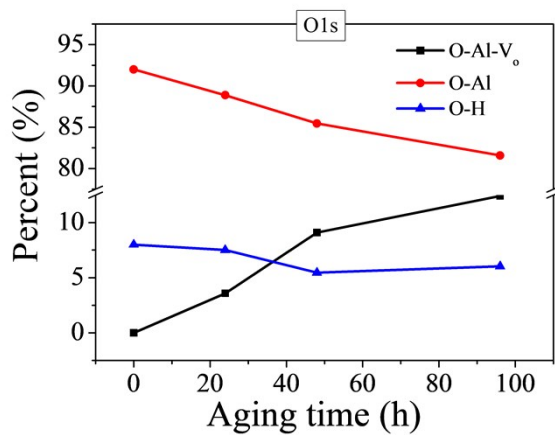
**Figure S1:** Comparisons of (a) Raman and (b) Zr3d XP spectra between the current 3Y-TZP samples with and without hydrothermal treatment at 132 °C for 96 h and the non-transformed and fully transformed ones fabricated by a different procedure.



**Figure S2:** Variation of area percent of three sub-bands of the Al2p XP peak for monolithic alumina samples with aging time.



**Figure S3:** O1s XP spectra of monolithic alumina samples subjected to autoclaving for (a) 0 h, (b) 24 h, (c) 48 h, and (d) 96 h.



**Figure S4:** Variation of area percent of three sub-bands of the O1s XP peak for monolithic alumina samples with aging time.