

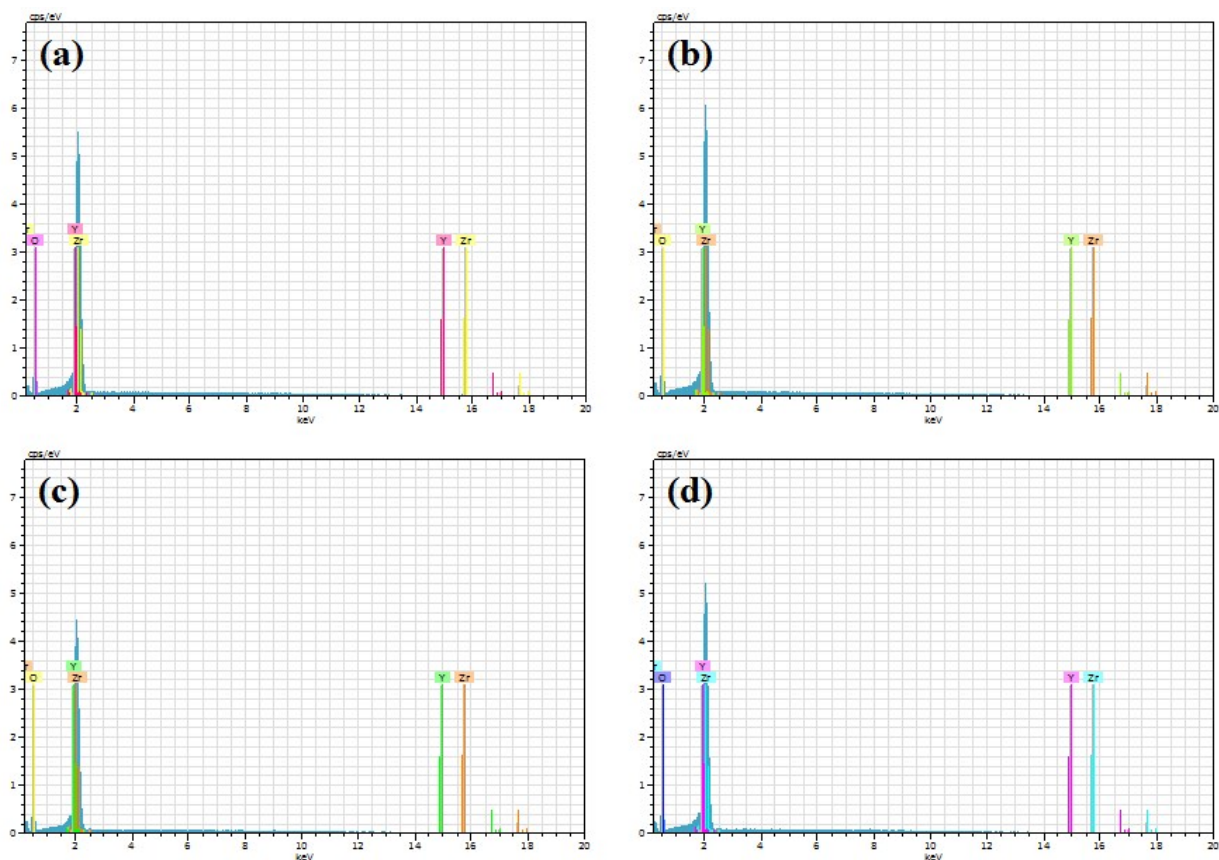
Surfactant-assisted Preparation of Y₂O₃-stabilized ZrO₂ Nanoparticles and their Tribological Performance in Mineral and Commercial Lubricating Oils

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Supplementary Information

Composition Analysis. The elemental analysis on all the 3YSZ nanoparticles prepared in the current study was performed using an Energy Dispersive Spectrometer (EDS, Bruker, XFLASH® 6|30 detector with area scanning) under a Scanning Electron Microscope (TESCAN, EGA 3 LMH). The EDS results are shown in figure S1. 3 mol.% Y₂O₃ in 3YSZ corresponds to ~ 1 at.% (percentage in atoms) Y.



(e)	O (at. %)	Zr (at. %)	Y (at. %)
Sample I	67.94	32.85	1.21
Sample II	67.46	30.79	1.75
Sample III	66.71	32.09	1.20
Sample IV	66.38	32.29	1.33

Figure S1. EDS results for (a) sample I, (b) sample II, (c) sample III, and (d) sample IV. (e) Elemental analysis on 3YSZ nanoparticles (samples I – IV).