|  |  |
| --- | --- |
| Slurry/concentration | Ceria slurry/1 wt% |
| Pad | IC1000/SubaIV |
| Spindle/table speed | 69/70 rpm |
| Down force | 4 psi |
| Flow rate | 100 ml/min |
| Polishing time | 60 s |

**Table SI.** CMP conditions.



**Figure S1.** Removal rates of SiO2 film by pristine and core–shell ceria NPs at pH 7.



**Figure S2.** Nanotopography of SiO2 film pre and post CMP by pristine and core–shell ceria NPs at pH 7. Insets: standard deviations (Rms).