Supplementary Information

for

Tuning the Plasmonic Response of TiN Nanoparticles Synthesised by the Transferred Arc Plasma Technique

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Figure S1: Schematic of the transferred arc plasma set up



Figure S2: Images depicting the setup and the materials generated by the transferred arc process



Figure S3: Fast Fourier Transform as observed from the red box of the TEM indicates a d-spacing of 2 Å which corresponds to the (200) plane of a TiN in a cubic structure



Figure S4: EELS analysis of the particle was also conducted which shows a lack of oxygen in the particle.



Figure S5: A histogram depicting the size distribution of the TiN nanoparticles as identified from TEM micrographs



Figure S6: A plot depicting the relative weight vs diameter of the TiN nanoparticles as measured by the CPS disk centrifuge



Figure S7: X-ray diffractograms of the TiN generated at 150 A with different ratio of He: N_2 .



Figure S8: Size distribution analysis of the TiN produced at 120 A with different He: N_2 ratios



Figure S9: X-ray diffractograms of the TiN generated at a He: N_2 of 1:1 with different arc currents



Figure S10: Size distribution analysis of the TiN produced at a He: N_2 of 1:1 with different arc currents