

## SUPPLEMENTARY DATA

### **Fabrication of Plasmonic Dye Sensitized Solar Cells using Ion Implanted Photoanodes**

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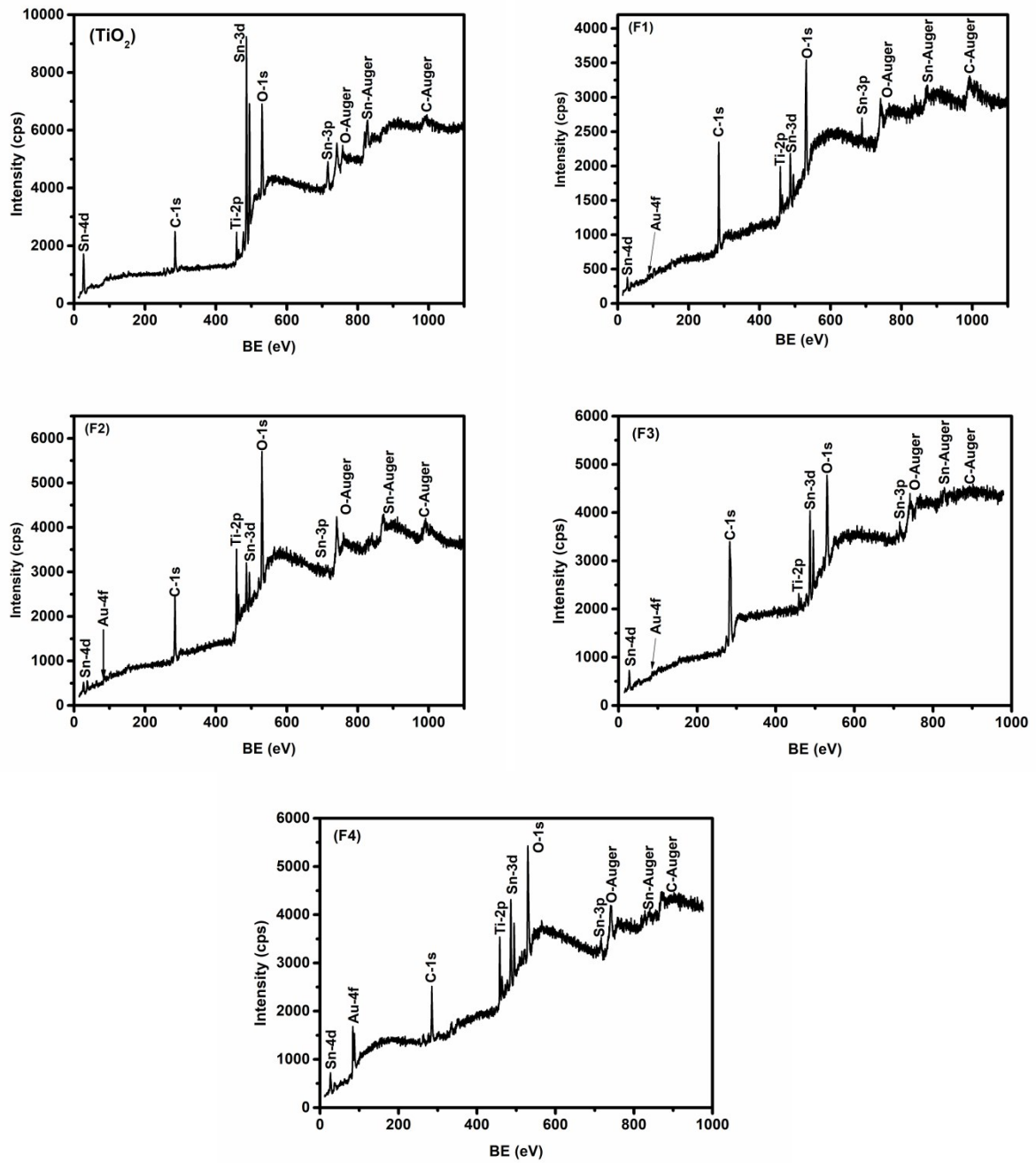
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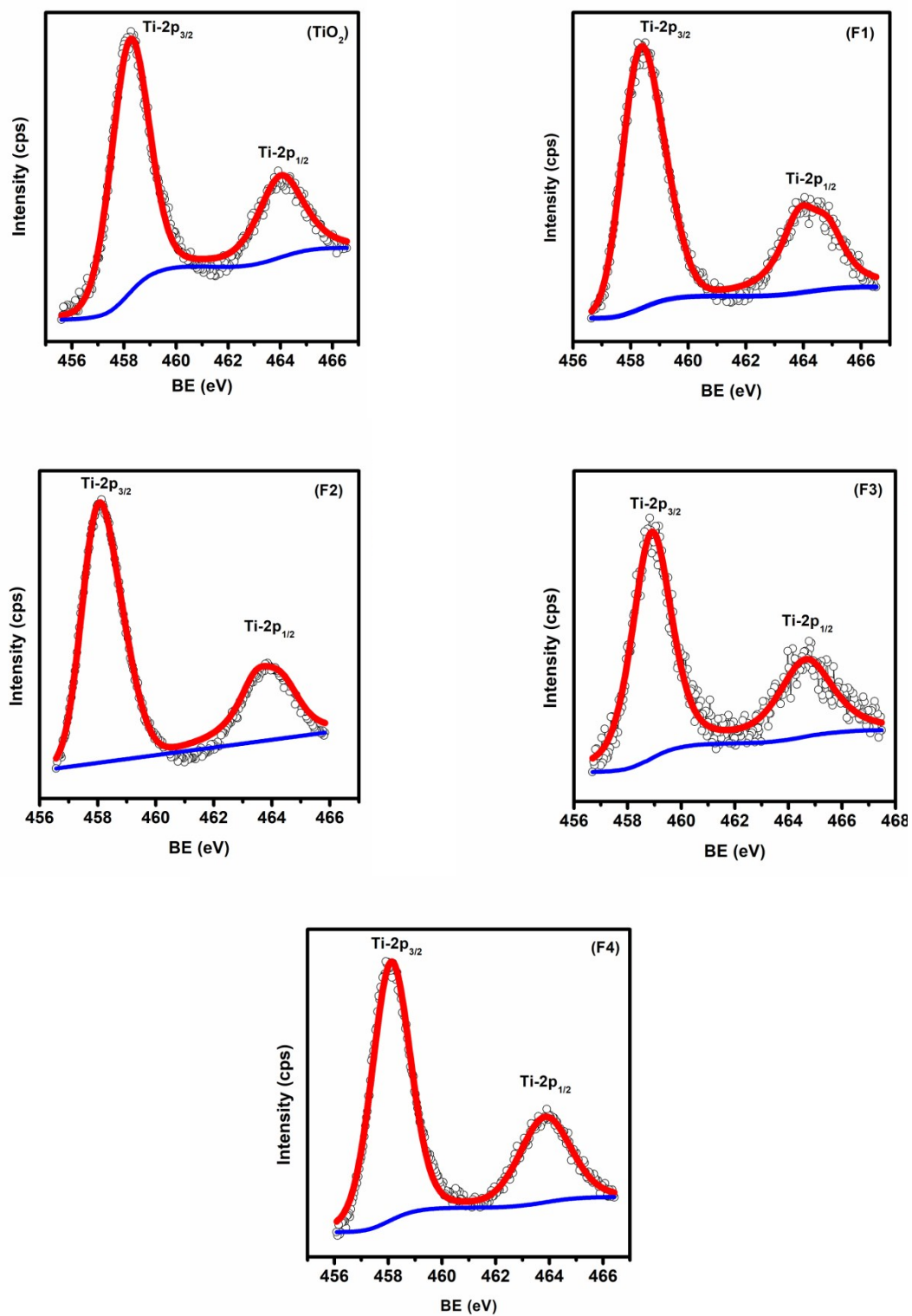
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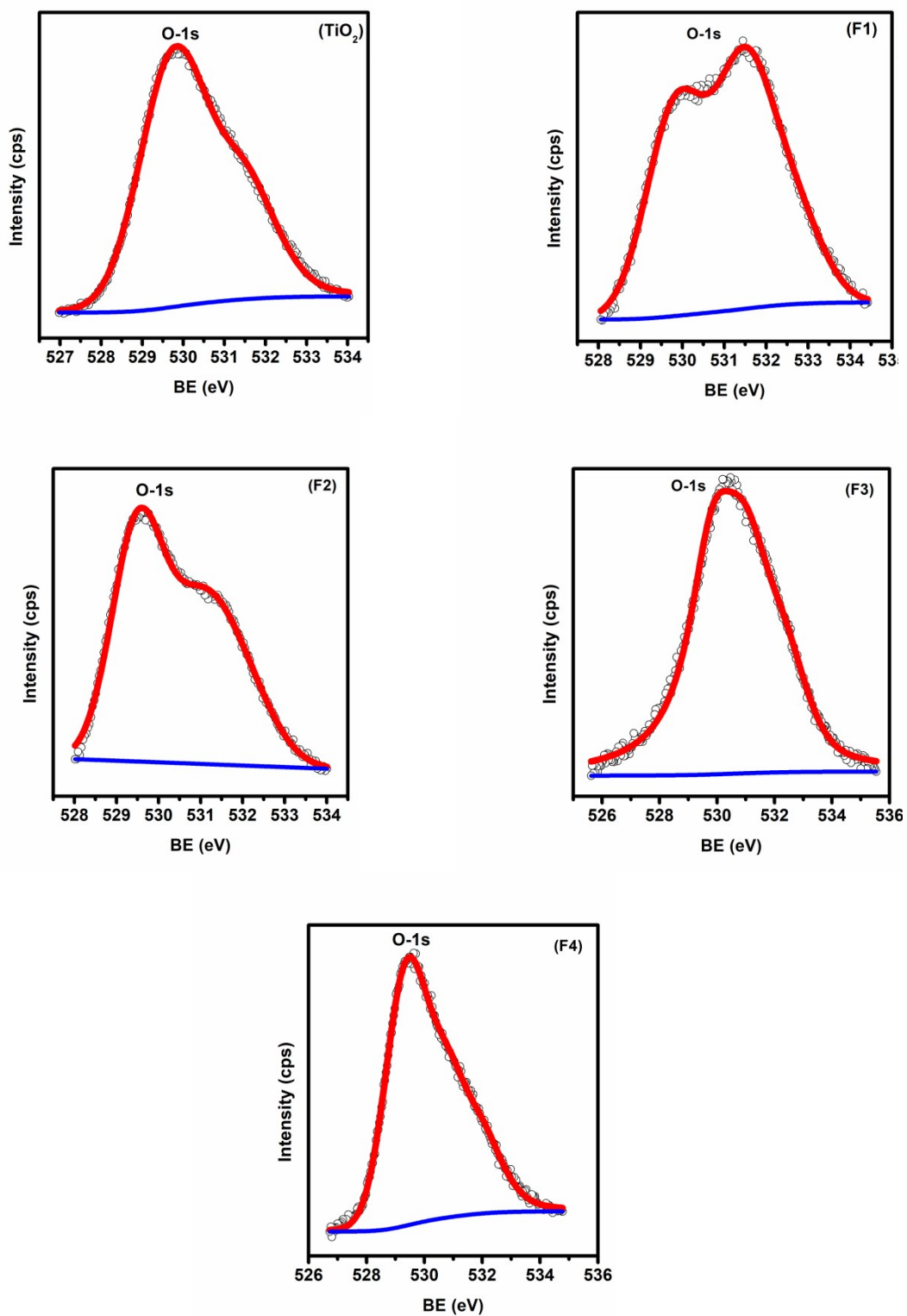
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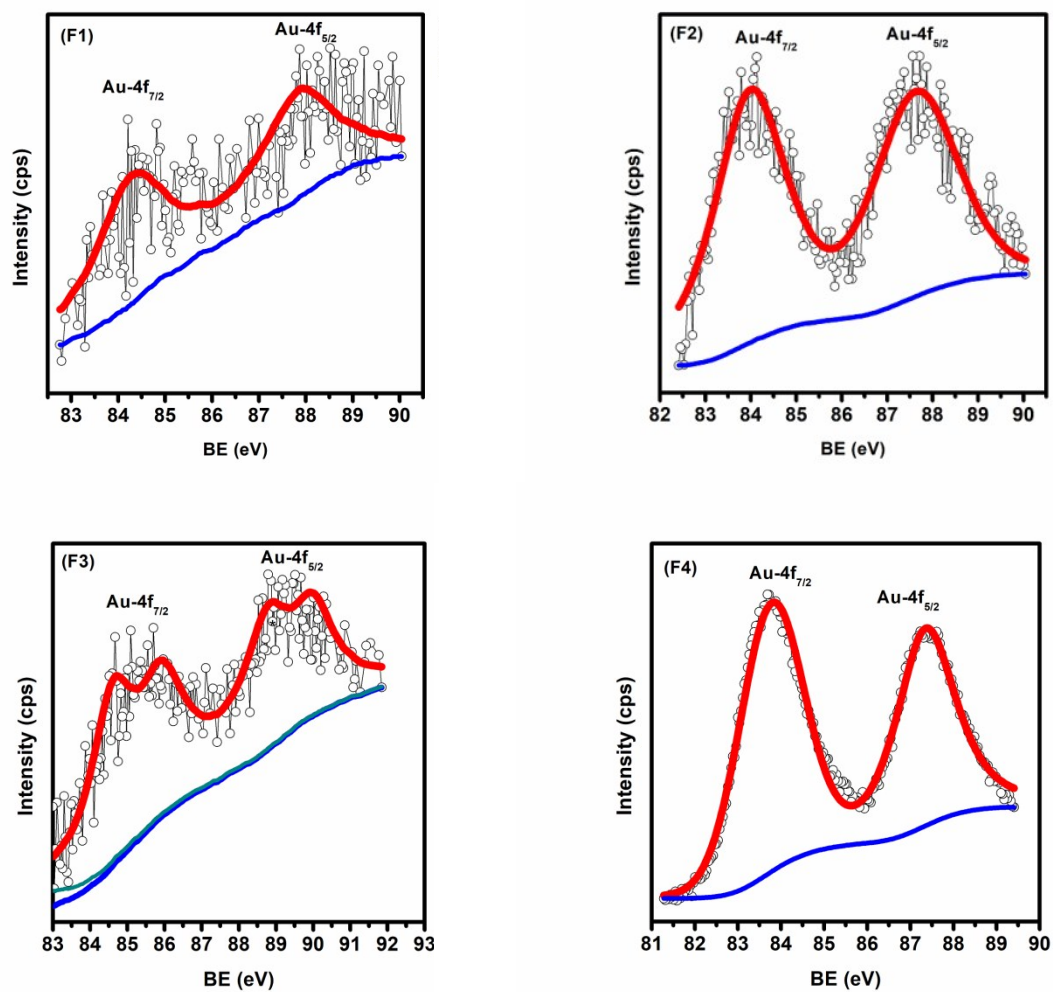
**Fig. S1:** XPS survey spectra of unimplanted  $\text{TiO}_2$  and Au implanted  $\text{TiO}_2$  matrix at different fluence (F1, F2, F3 and F4)



**Fig. S2:** Core-level XPS spectra of Ti-2p unimplanted TiO<sub>2</sub> and Au implanted TiO<sub>2</sub> matrix at different fluence (F1, F2, F3 and F4)



**Fig. S3:** Core-level XPS spectra of O-1s unimplanted TiO<sub>2</sub> and Au implanted TiO<sub>2</sub> matrix at different fluence (F1, F2, F3 and F4)



**Fig. S4:** Core-level XPS spectra of Au-4f of Au implanted TiO<sub>2</sub> matrix at different fluence (F1, F2, F3 and F4)