

## Supplementary Materials

Green synthesis of Pt-doped TiO<sub>2</sub> nanocrystals with exposed (001) facets and mesoscopic void space for photo-splitting of water under solar irradiation

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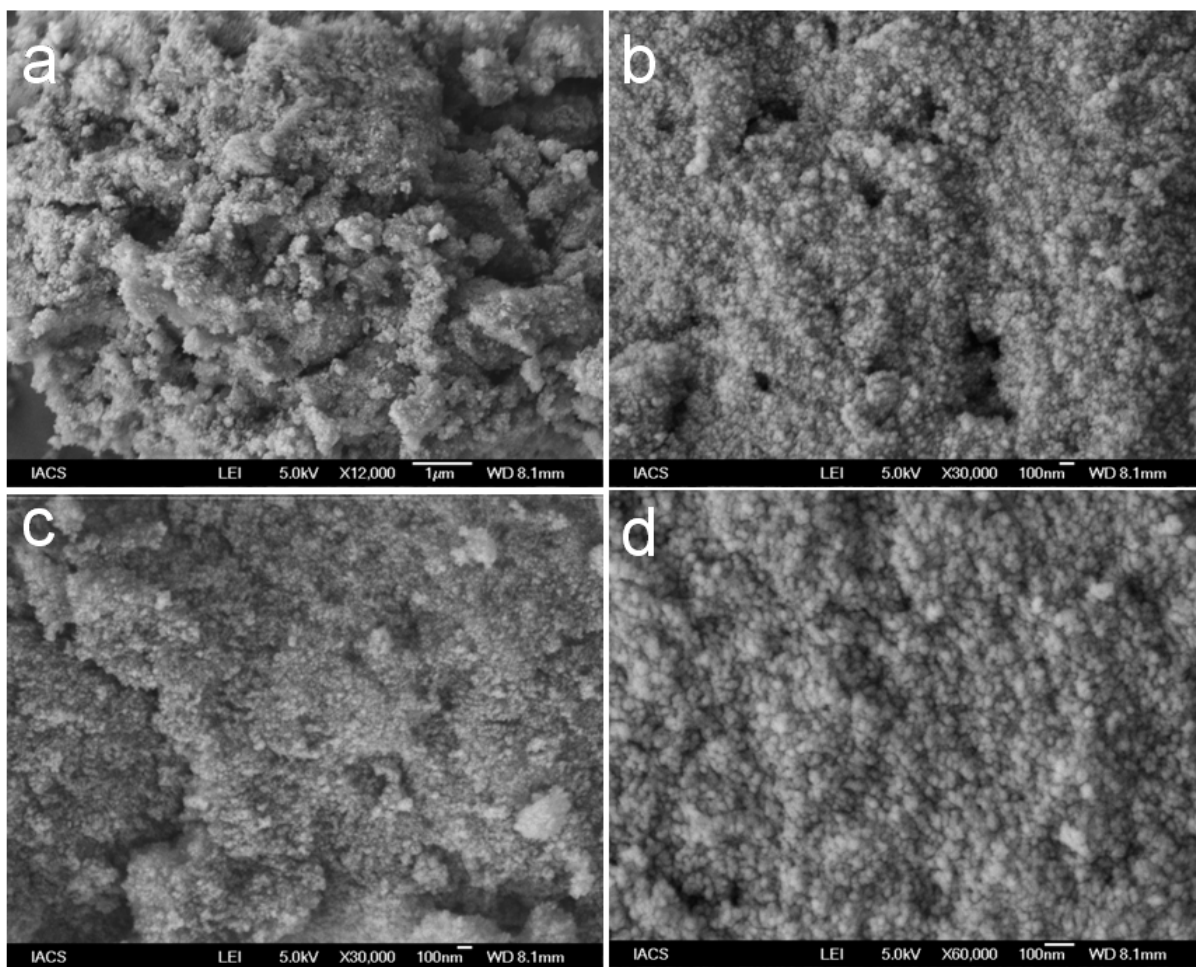
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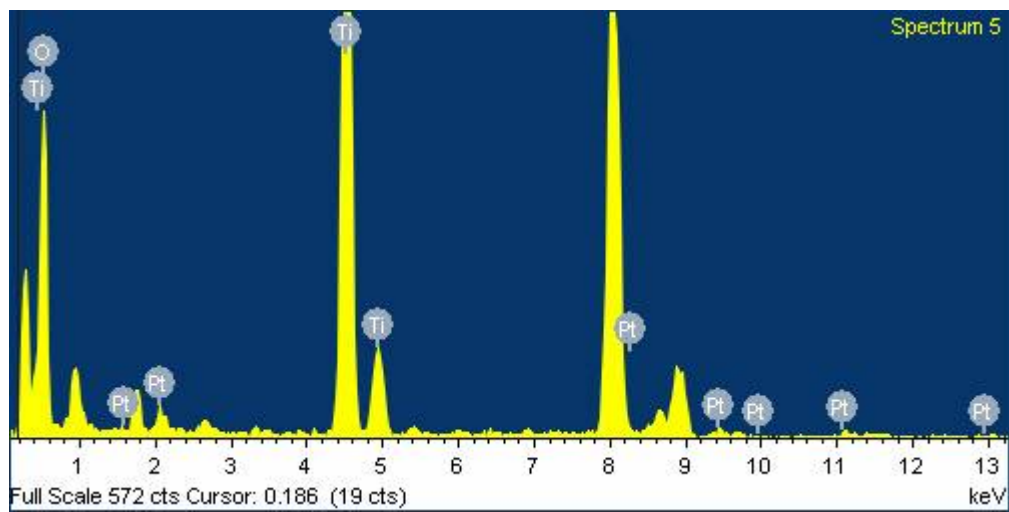
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**Figure S1.** Emission Spectrum of solar simulator (Newport 94023A Oriel Sol3A) used for photocatalytic activity test of the Pt/TiO<sub>2</sub> materials

	<b>400-500</b>	<b>500-600</b>	<b>600-700</b>	<b>700-800</b>	<b>800-900</b>	<b>900-1100</b>	<b>400-1100</b>
<b>Ideal Match %</b>	<b>18.40 %</b>	<b>19.90 %</b>	<b>18.40 %</b>	<b>14.90 %</b>	<b>12.50 %</b>	<b>15.90 %</b>	<b>100.00 %</b>
<b>Upper Limit %</b>	<b>23.00 %</b>	<b>24.88 %</b>	<b>23.00 %</b>	<b>18.63 %</b>	<b>15.63 %</b>	<b>19.88 %</b>	
<b>Lower Limit %</b>	<b>13.80 %</b>	<b>14.93 %</b>	<b>13.80 %</b>	<b>11.18 %</b>	<b>9.38 %</b>	<b>11.93 %</b>	
<b>Sol 3A %</b>	<b>22.50 %</b>	<b>22.78 %</b>	<b>19.68 %</b>	<b>11.30 %</b>	<b>10.57 %</b>	<b>16.00 %</b>	



**Fig. S2.** FE-SEM images of IL-MTO-1C (a), IL-MTO-1C-06 (b) IL-MTO-1C-13 (c), IL-MTO-1C-26 (d).



**Fig. S3.** EDS pattern of IL-MTO-1C-26