Electronic Supplementary Material (ESI) for RSC Advances.

Electronic Supplementary Information (ESI)

Rapid and continuous fabrication of TiO_2 nanoparticles capsulated by polyimide fine particles using a multistep flow-system and its application

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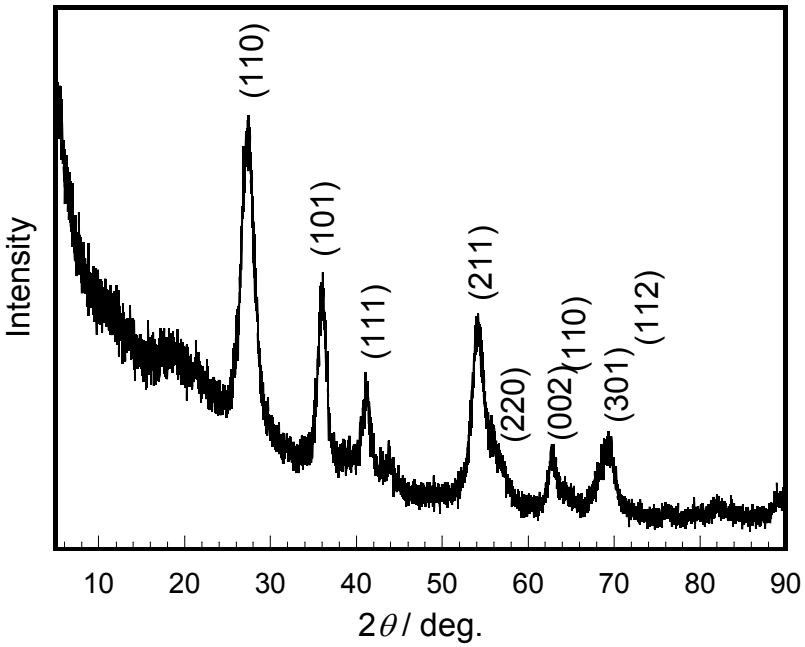


Fig. S1 XRD pattern of PI FPs/TiO_2 NPs powder. All peaks were assigned to the rutile type crystal. An average particle size of TiO_2 NPs was determined as 5.6 nm by Scherrer's equation as followed:

$$d = \frac{K\lambda}{B\cos\theta_B} \qquad (1)$$

Where *d* is the average particle size, λ is the X-ray wavelength, *B* is the full width at half maximum intensity of diffraction peak, θ is the diffraction angle and *K* is a constant related to crystalline shape.

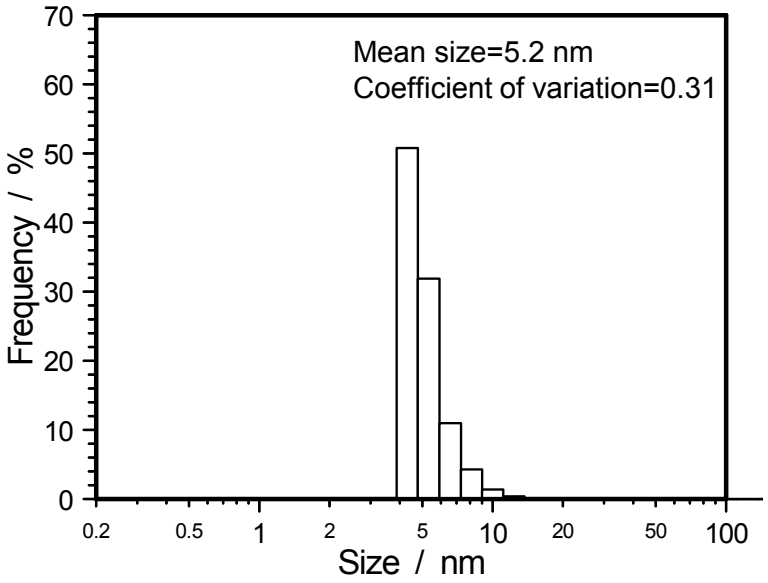


Fig. S2 Size distribution of TiO_2 NPs dispersion liquid by dynamic light scattering (DLS) measurement.

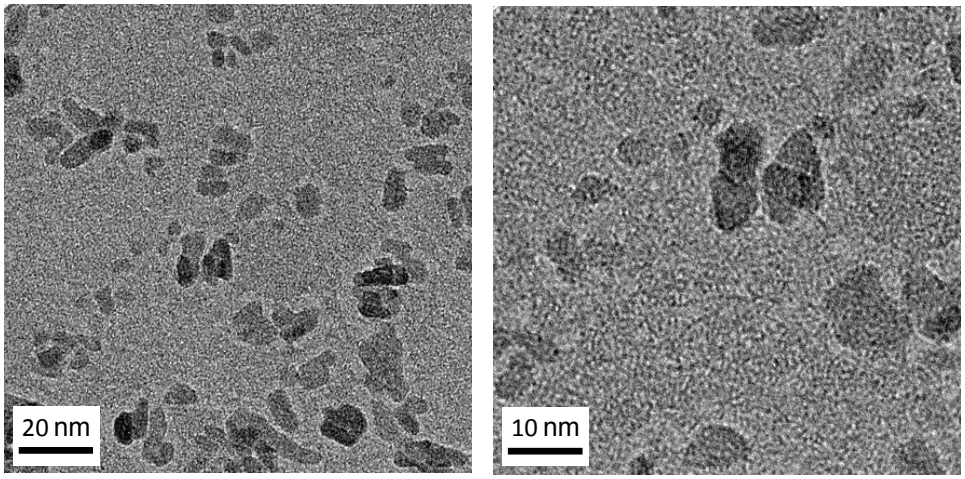
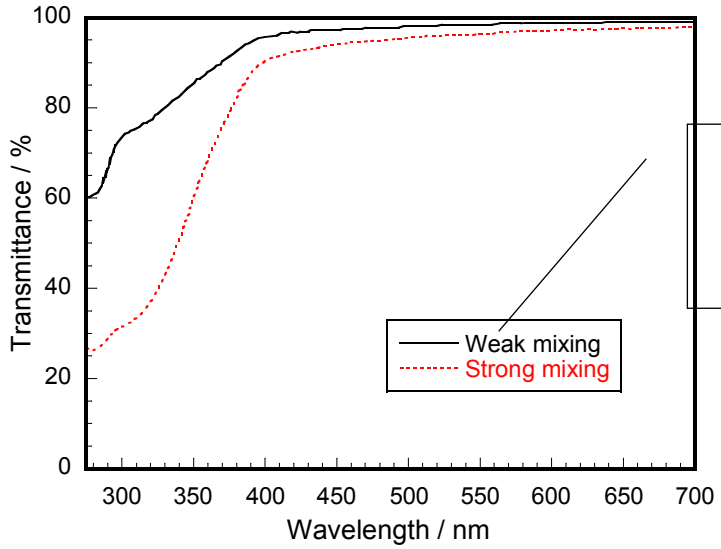


Fig. S3 TEM images of TiO_2 NPs dispersion liquid used for fabrication of PI FPs/TiO_2 NPs.



We revised “wake” to “weak” in this graph legend.

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Fig. S4 Transmittance spectrum of an application film of bare TiO_2 NPs-dispersed oils prepared with weak and strong mixing.