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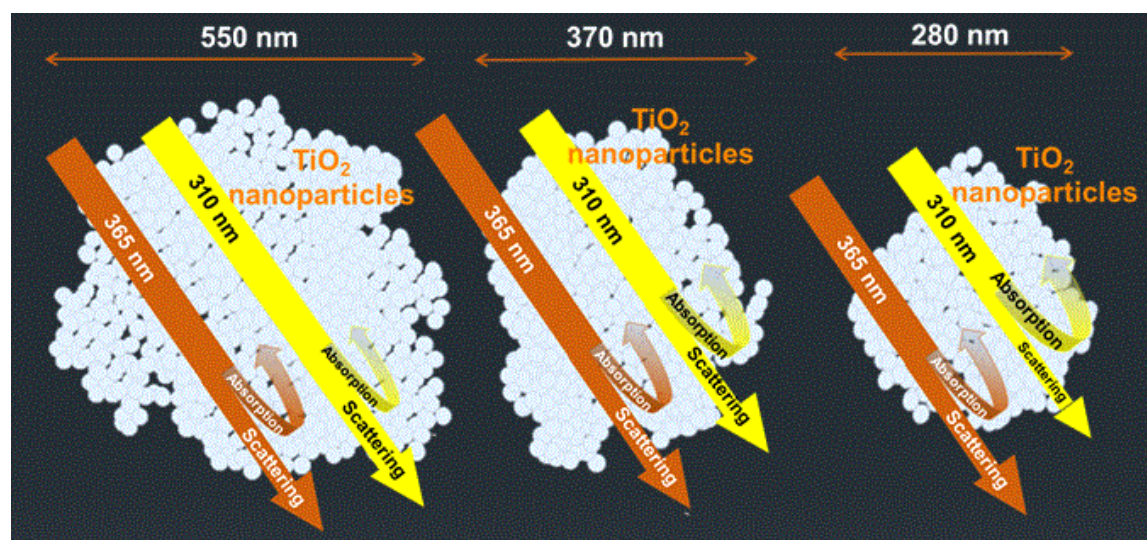
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Graphical abstract



Highlights

- 1) Aggregation influences optical properties and photocatalytic activity of materials
- 2) Deaggregation strongly increases light absorption (<330 nm) by TiO₂ nanoparticles
- 3) The effect is due to a low penetration depth of the radiation inside the aggregates
- 4) TiO₂ Cristal PC105 is a good model to study the effect of aggregation on photoactivity
- 5) Aggregation level evaluation is mandatory in photocatalytic activity tests

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