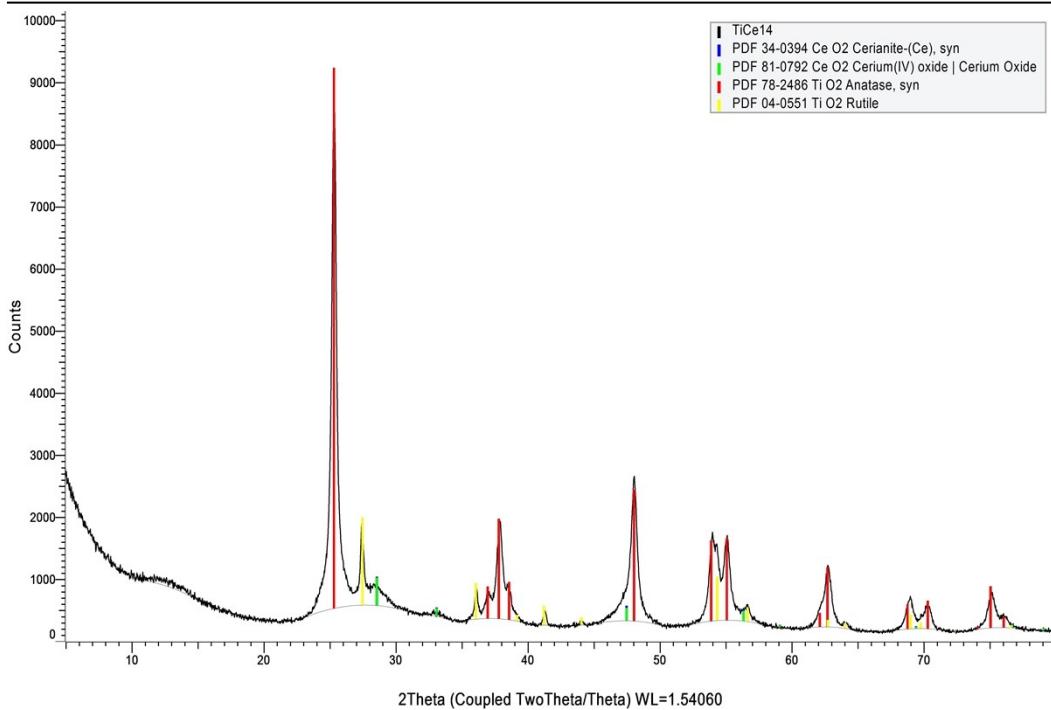


## Supplementary material

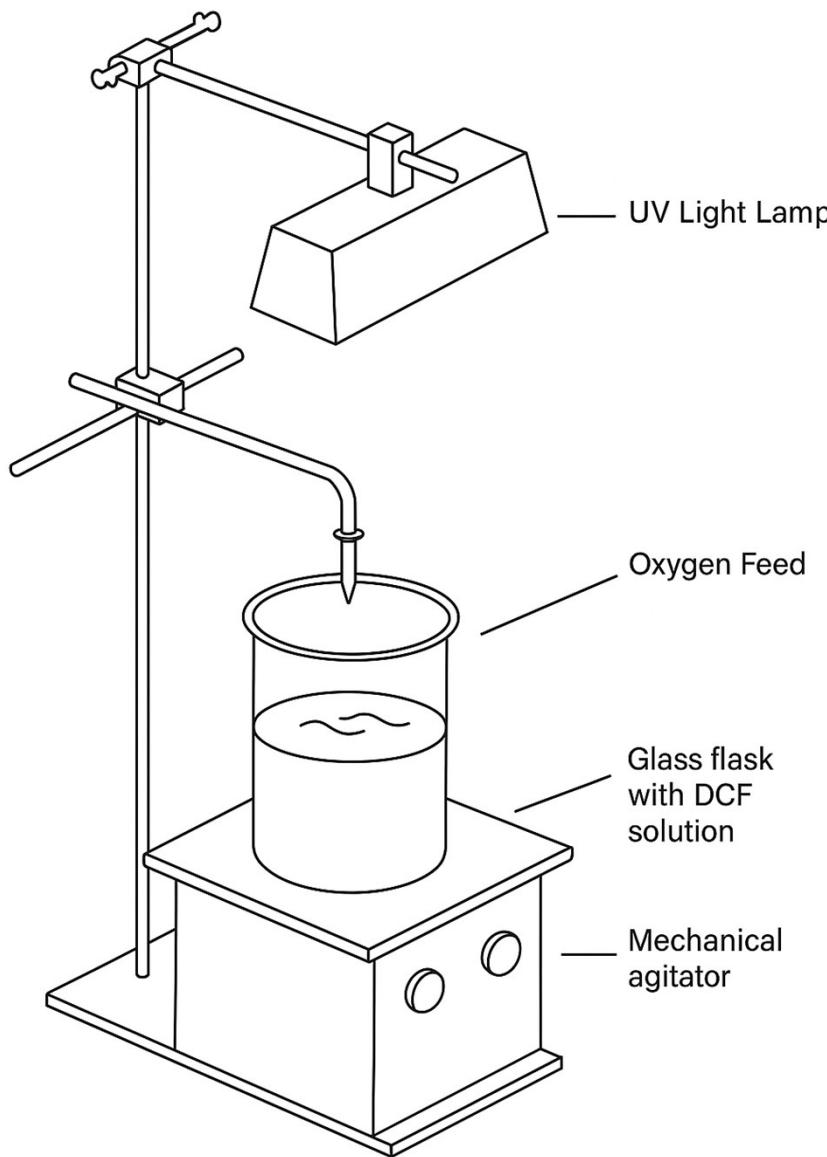
All data were incorporated into the Tables and Figures. They are also available as Supplementary material full patrons XRD of prepared samples, TiO 2p and O 1s XPS spectra, the diagram of the device used in photocatalysis and radiocatalysis and spectra of samples during degradation of irradiated solution with initial concentration 3 mg/L.

### (Coupled TwoTheta/Theta)

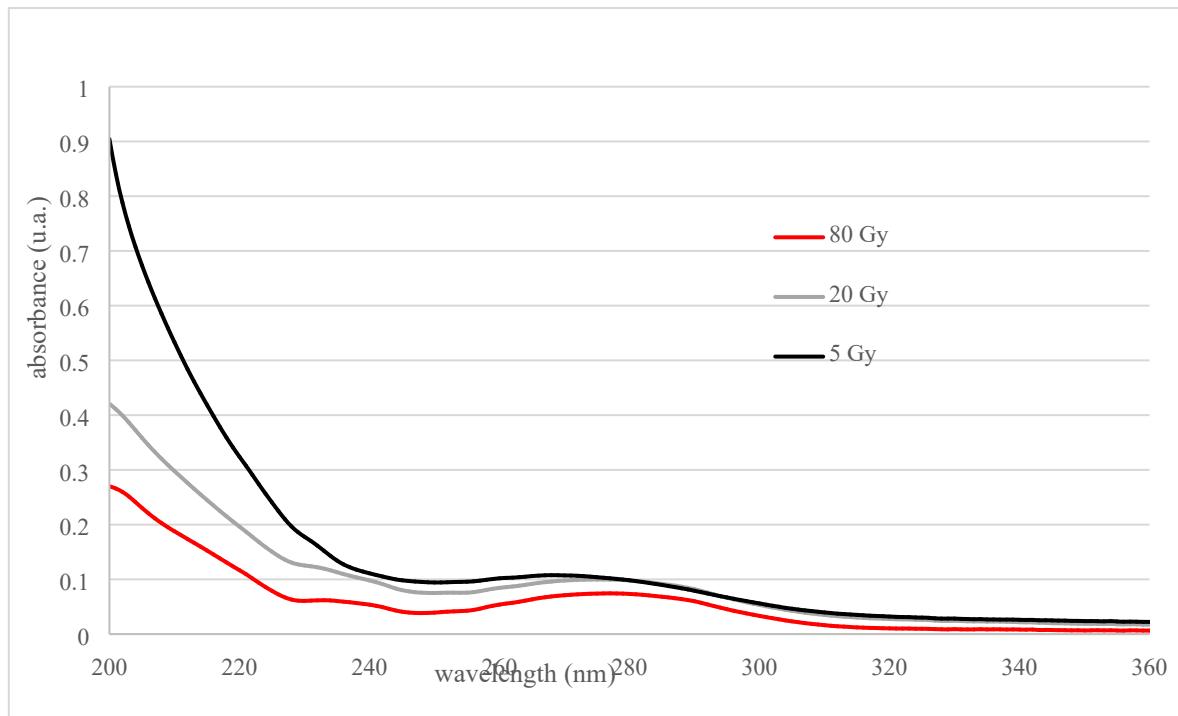


Supplementary material 1. XRD patterns of the Ti-Ce samples.

Note. The TiCe14 sample is the same as the TiCe9 sample.



Supplementary material 2. Diagram of the device used in photocatalysis and radiocatalysis



Supplementary material 3. Spectra of samples during degradation of irradiated solution with initial concentration 3 mg/L

