

Supplementary Information

for

Liberation of Photogenerated Radicals from Nano Titania Surface at Solid-Air Interface

K. R. Jaliya Manuda¹, Nimshi L. Fernando^{1,2}, Buddini Nissanka¹, Aashani Tillekaratne³, Dilushan R. Jayasundara^{1*}

¹Department of Physics, University of Colombo, Colombo 03, Sri Lanka

²Department of Chemistry, CINEC Campus (Pvt) Ltd, Malabe, Sri Lanka

³Department of Chemistry, University of Colombo, Colombo 03, Sri Lanka

Corresponding Author:

*Dilushan R. Jayasundara: dilushanj@phys.cmb.ac.lk

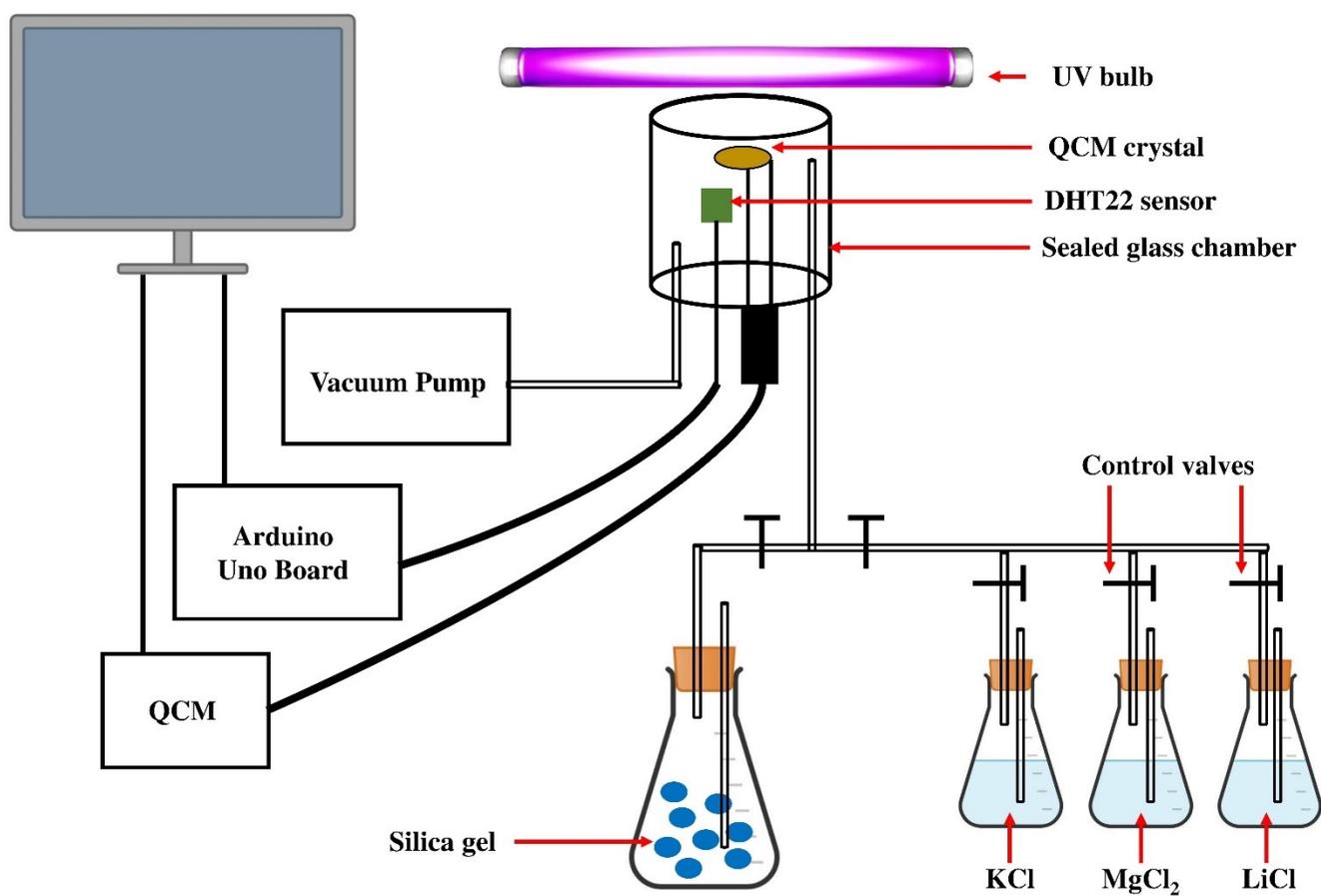


Fig. S1 The schematic diagram of homemade humidity controlling setup.

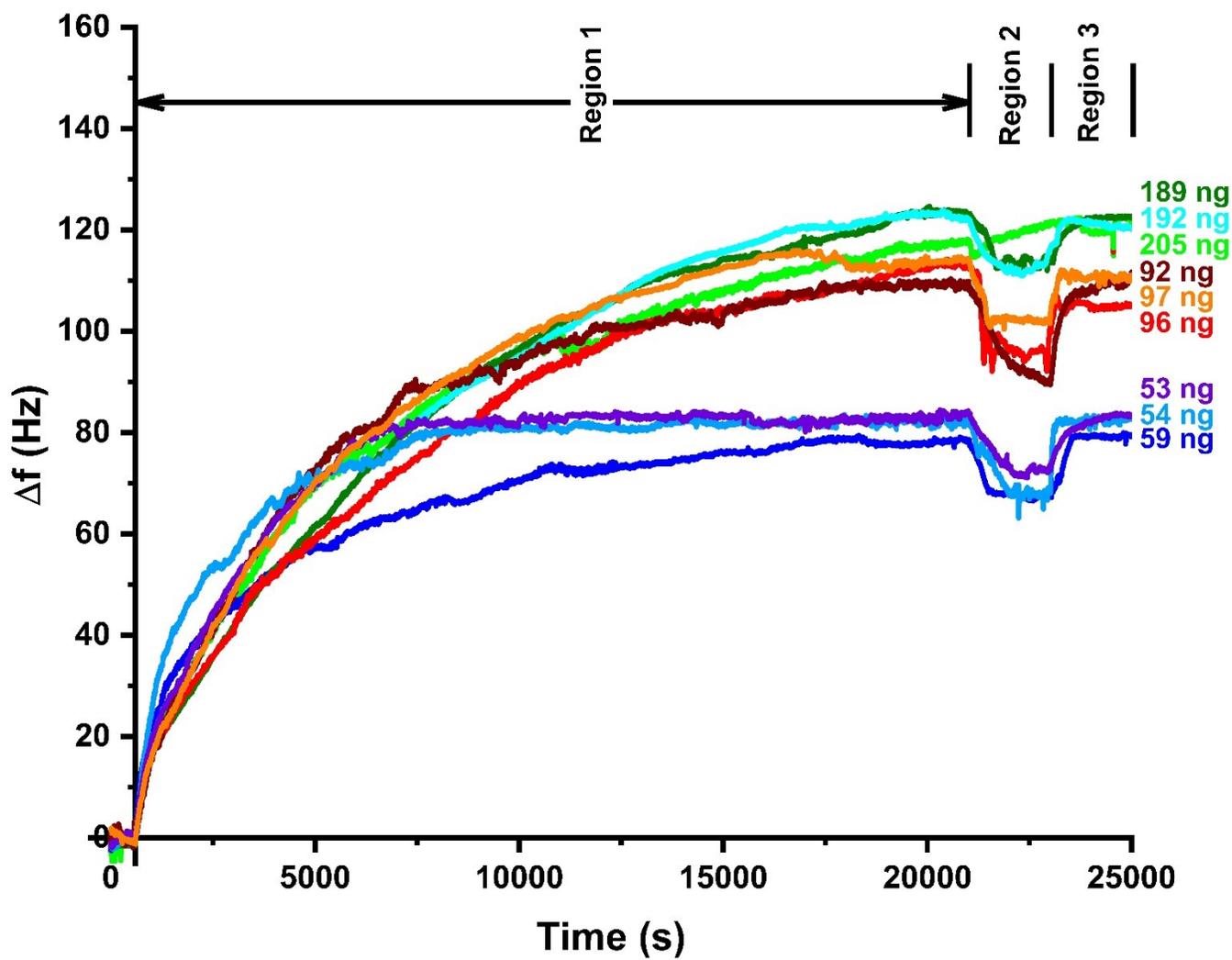


Fig. S2 Variation of the Δf of MO-55, MO-95, and MO-197 QCMs with irradiation time at 60% RH. Three replicated measurements were carried out for each MO loading. The respective amounts of MO are shown next to each curve.

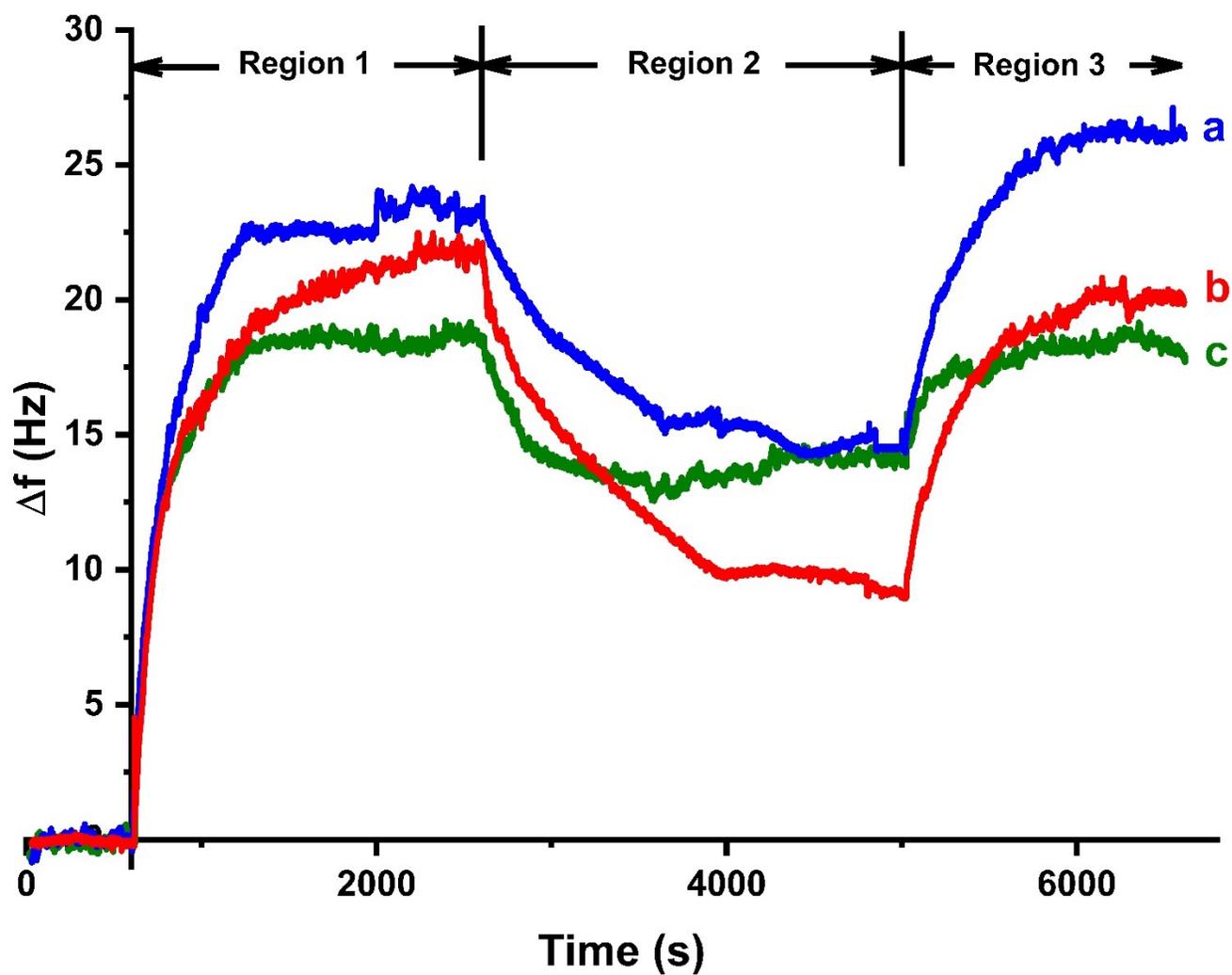
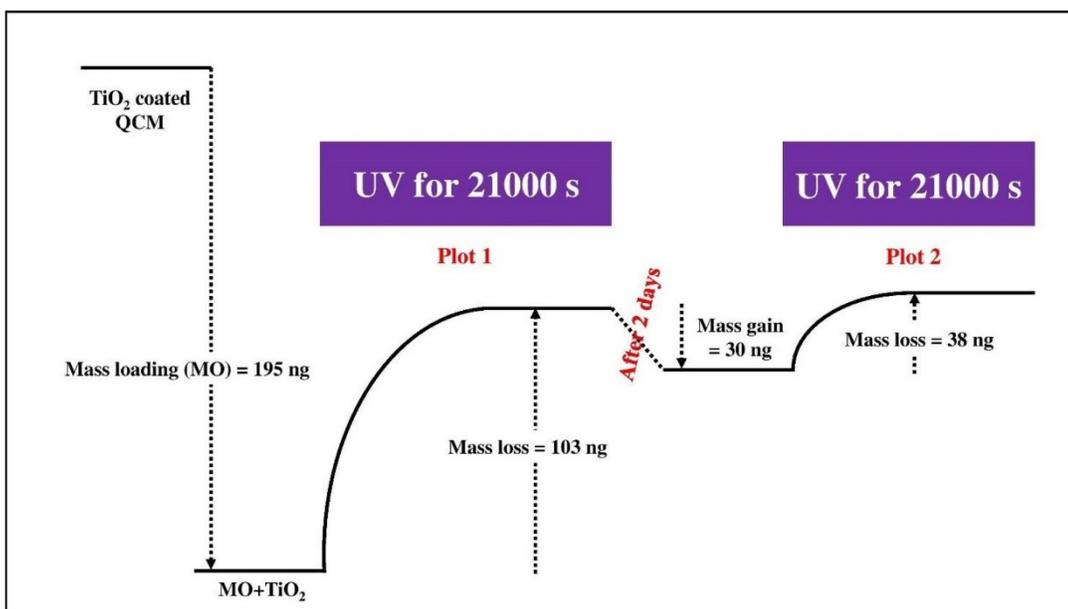


Fig. S3 Variation of the Δf of TiO_2 coated QCMs with irradiation time at 60% RH. Three replicated measurements with TiO_2 loadings of (a) 3018 ng (b) 2994 ng and (c) 2977 ng were carried out.

(a)



(b)

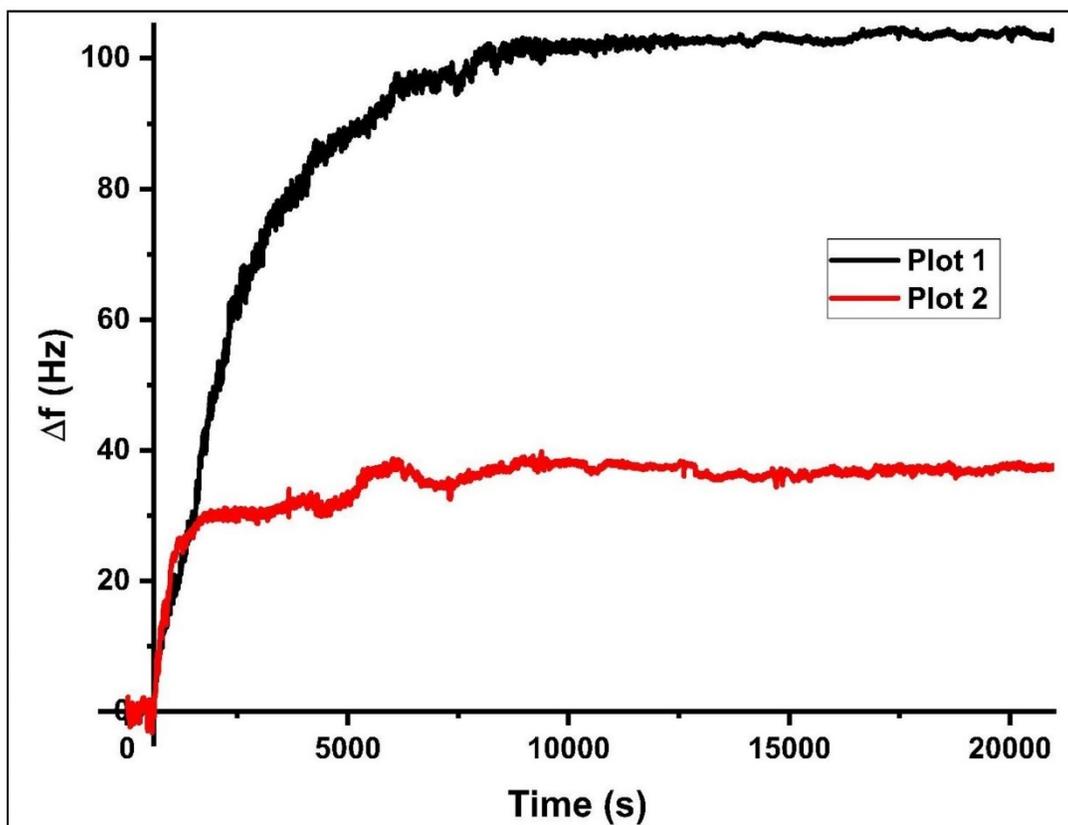


Fig. S4 (a) A summary of data of a freshly prepared MO-197 QCM (b) the original QCM data plots obtained for the two continuous irradiations.

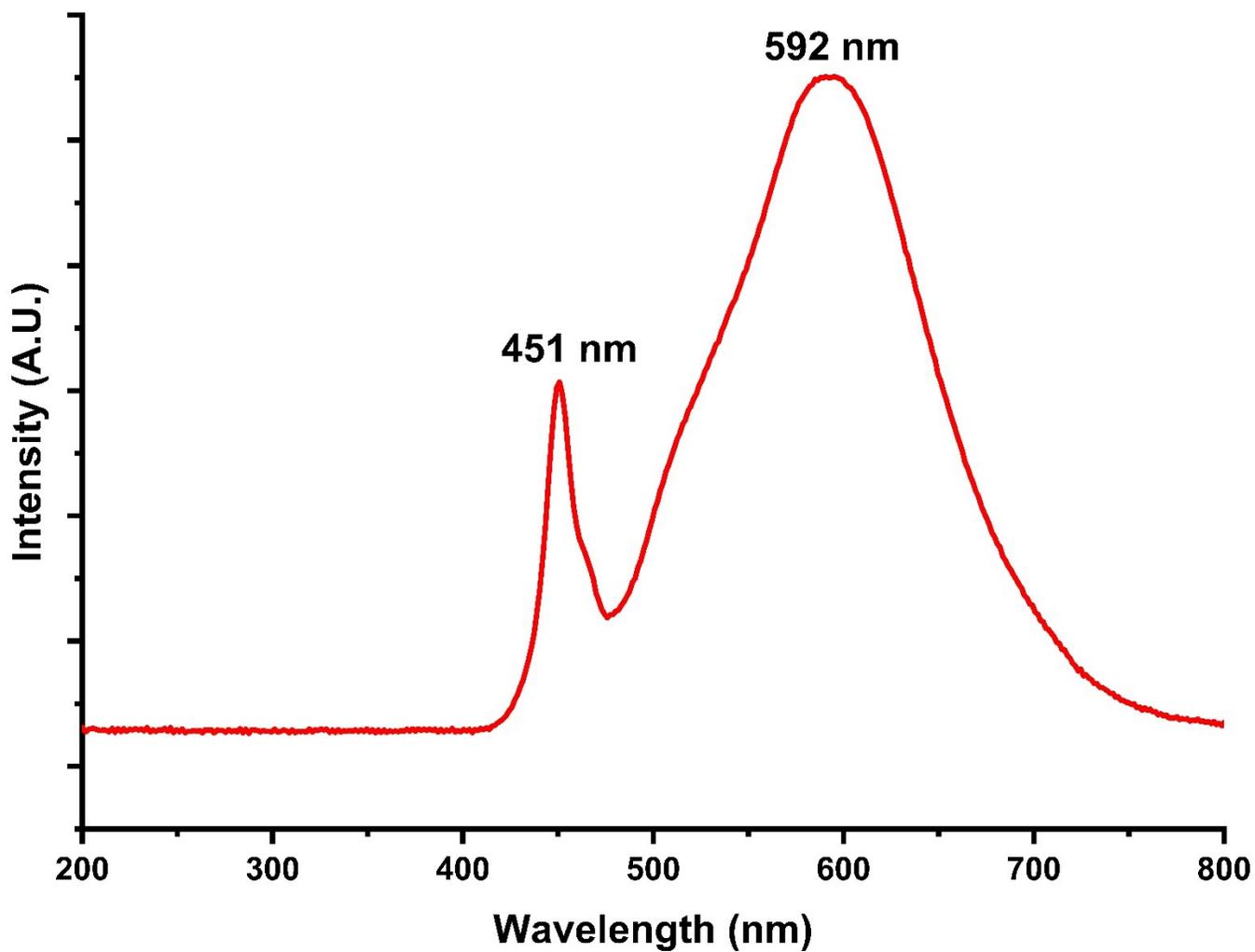


Fig. S5 The emission spectrum of the visible light source.

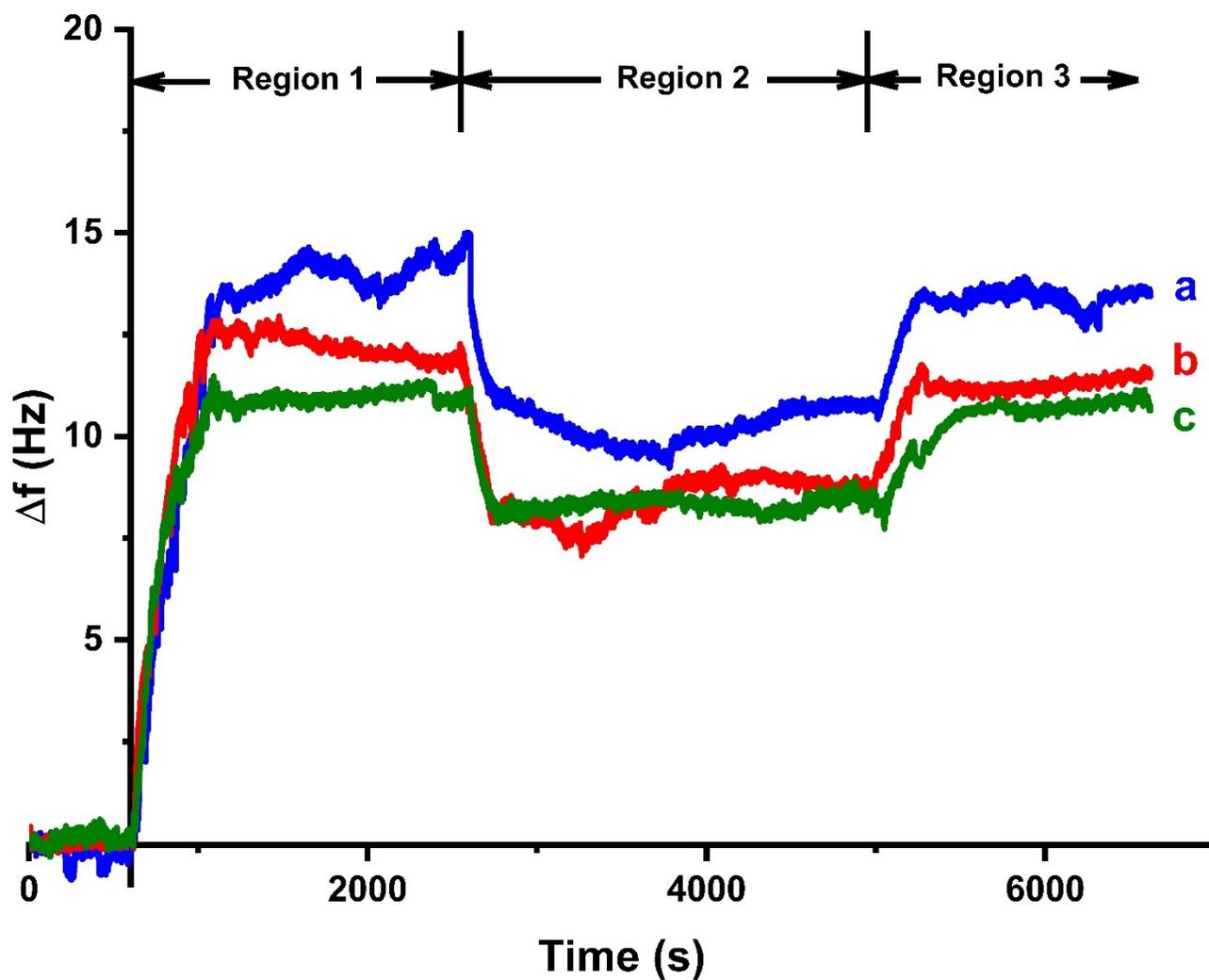


Fig. S6 Variation of the Δf of MO-55 QCMs with irradiation time at 12% RH. Three replicated measurements with MO loadings of (a) 58 ng (b) 50 ng and (c) 59 ng on TiO_2 loadings of approximately 3000 ng were carried out.

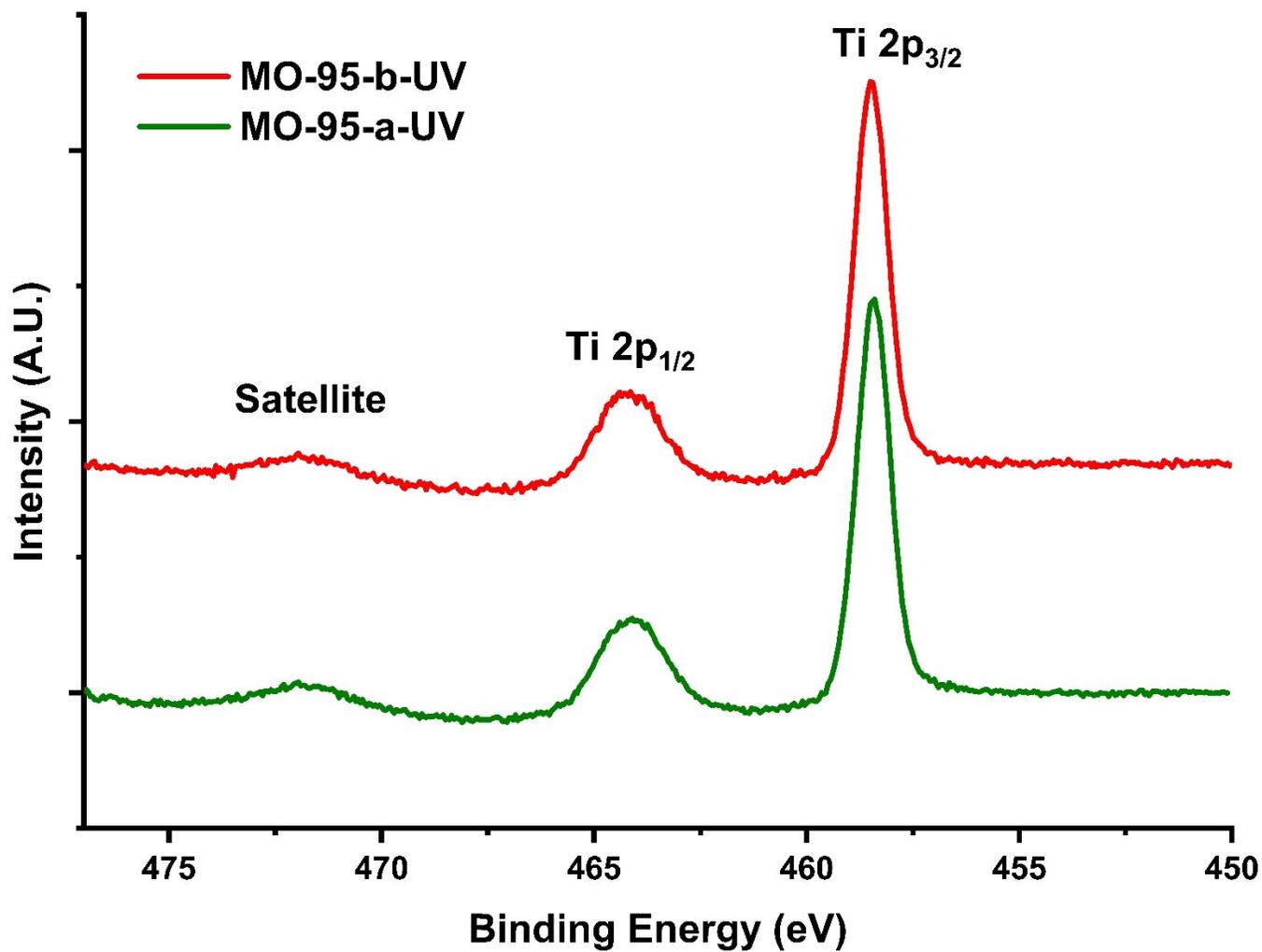


Fig. S7 High-resolution XPS spectra of Ti 2p region of MO-95-b-UV (top trace), and MO-95-a-UV (bottom trace)