

Electronic Supplementary Information

Sensing properties and photochromism of Ag-TiO₂ nano-heterostructures

D.M. Tobaldi,^{a*} S.G. Leonardi,^b R.C. Pullar,^a M.P. Seabra,^a G. Neri,^b J.A. Labrincha^a

^a Department of Materials and Ceramic Engineering / CICECO–Aveiro Institute of Materials, University of Aveiro,
Campus Universitário de Santiago, 3810-193 Aveiro, Portugal

^b Department of Engineering, University of Messina, C.da Di Dio, 98166 Messina, Italy

* Corresponding author. Tel.: +351 234 370 041

E-mail addresses: david.tobaldi@ua.pt; david@davidtobaldi.org

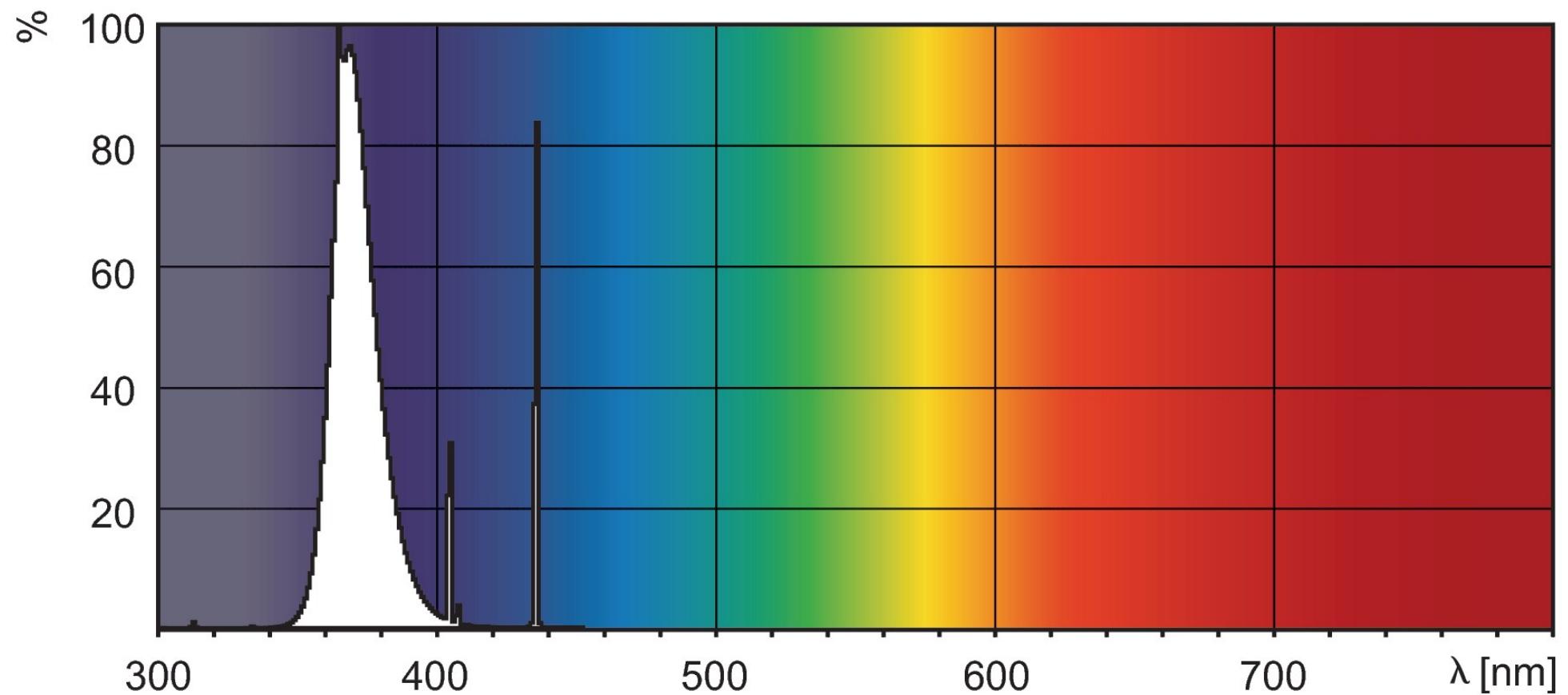


Fig. S1 – Emission spectrum of the UVA-lamp used, from www.philips.com

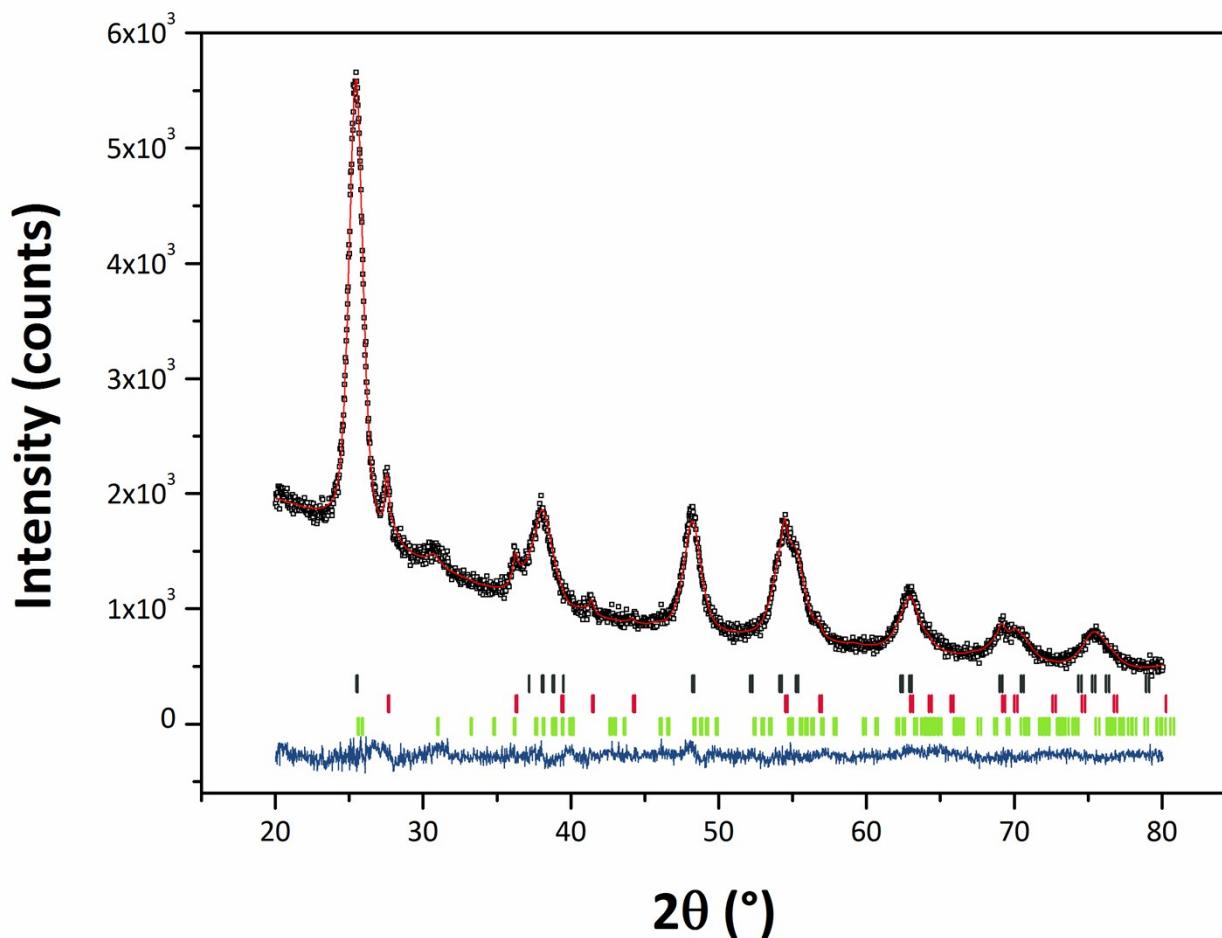


Fig.S2 – Graphic output of the Rietveld refinement of the sample **2Ag-Ti450**. The black open squares represent the observed pattern, the red line represents the calculated pattern, and the difference curve between observed and calculated profiles is plotted below. The position of reflections is indicated by the small vertical bars (black: anatase; red: rutile; green, brookite).

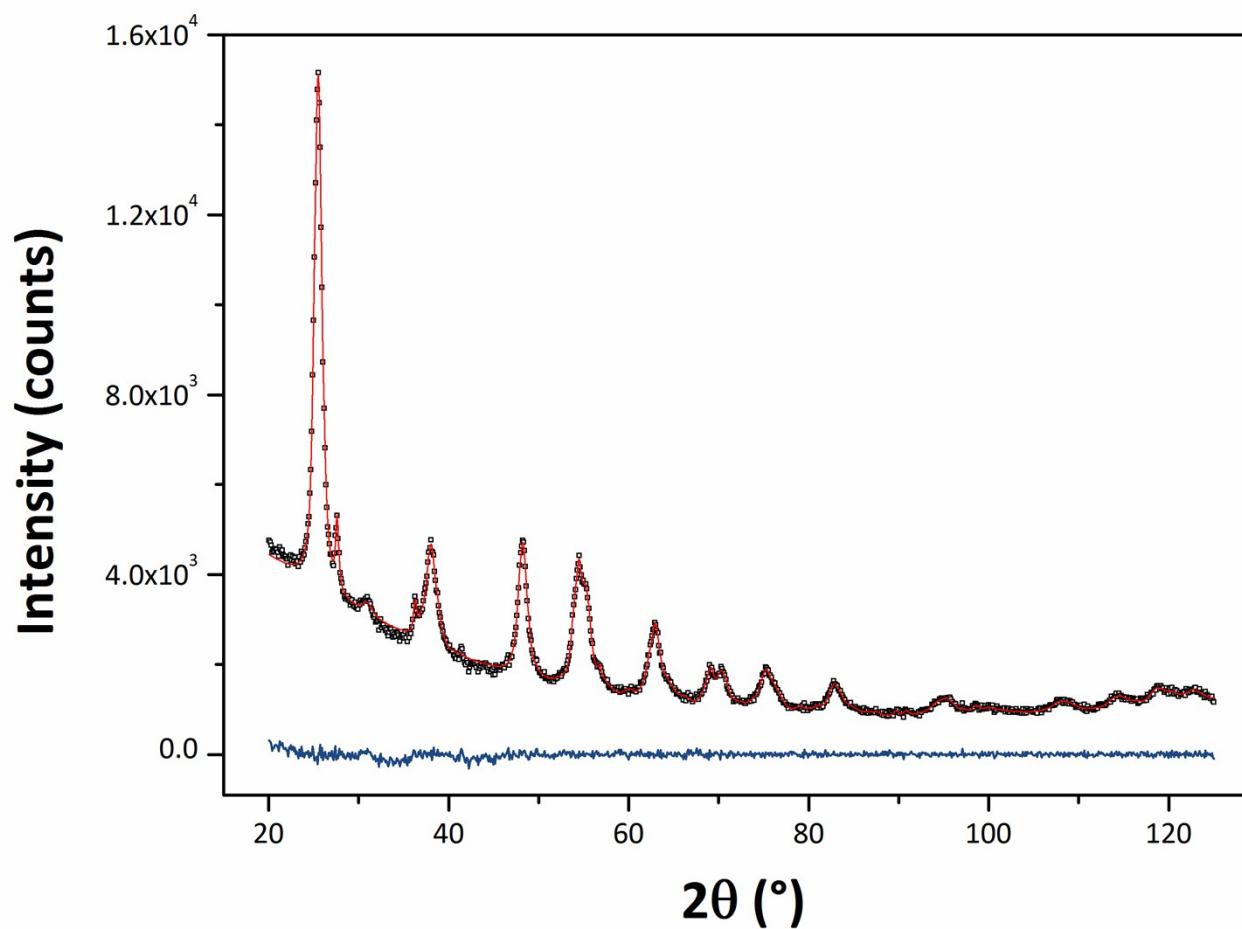


Fig. S3 – Graphic output of the WPPM modelling (sample **Ag-Ti450**). The black open squares represent the observed data, the red continuous line the calculated data. The blue continuous line in the bottom shows the difference curve between observed and calculated profile.

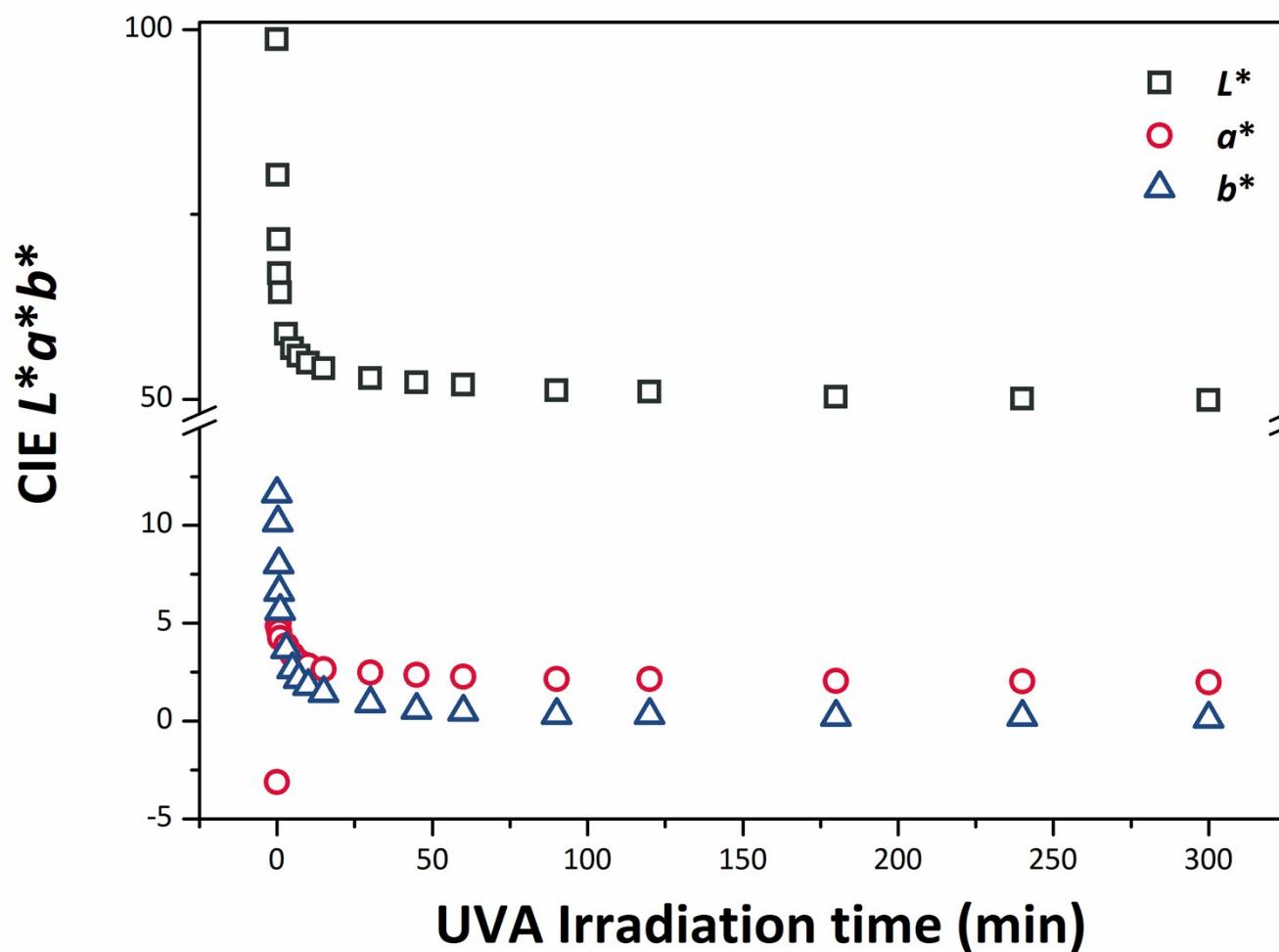


Fig. S4a – Change in the CIE $L^*a^*b^*$ colour coordinates in selected Ag-modified TiO_2 samples with UVA-light exposure time, specimen **Ag-Ti450**.

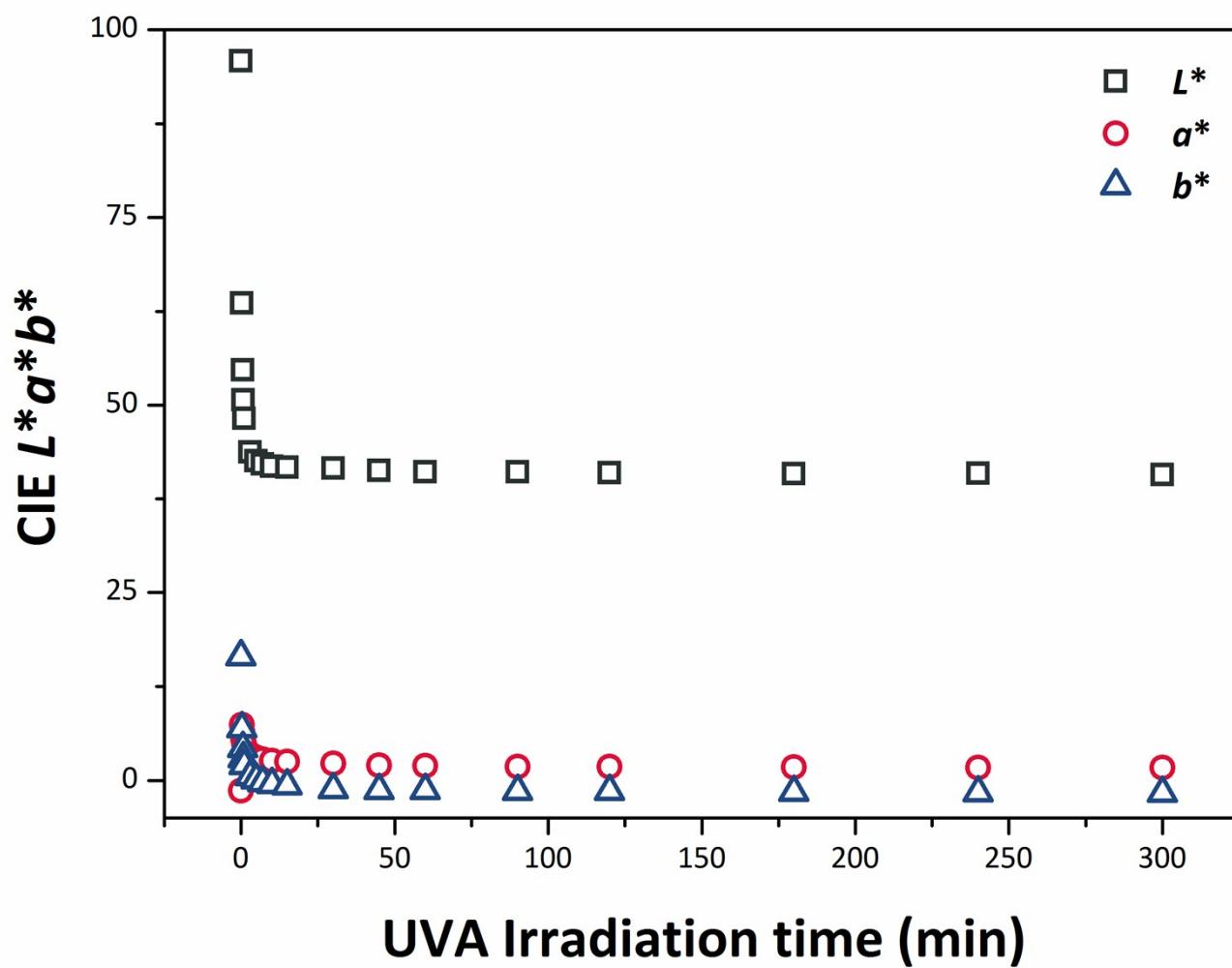


Fig. S4b – Change in the CIE $L^*a^*b^*$ colour coordinates in selected Ag-modified TiO_2 samples with UVA-light exposure time, specimen **2Ag-Ti450**.

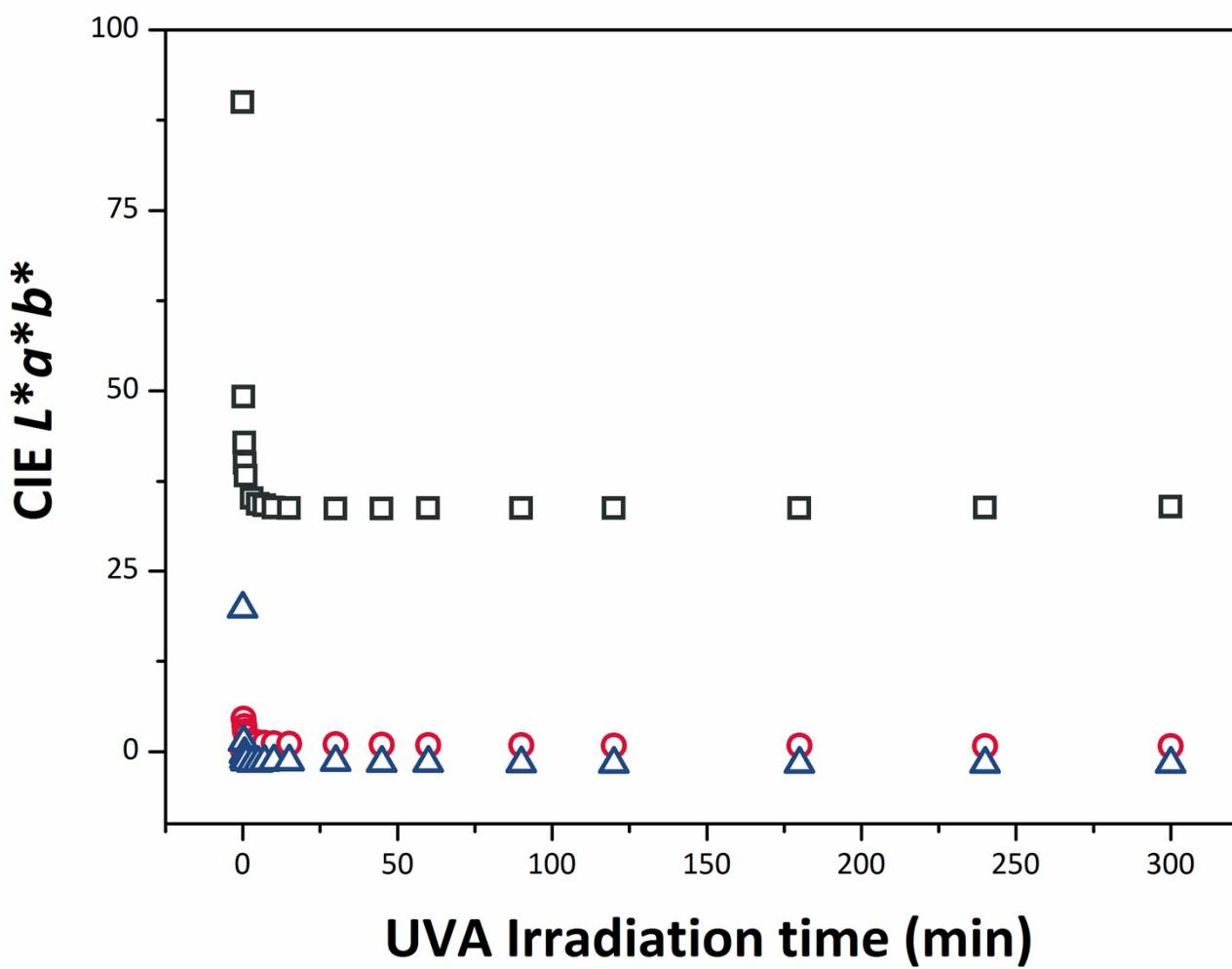


Fig. S4c – Change in the $CIEL^*a^*b^*$ colour coordinates in selected Ag-modified TiO_2 samples with UVA-light exposure time, specimen **5Ag-Ti450**.