Combinatorial Aerosol Assisted Chemical Vapour Deposition of a Photocatalytic Mixed SnO$_2$/TiO$_2$ Thin Film
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Electronic Supplementary Information

XRD
Whilst X-ray diffraction analysis was focused on column A and Row 4 for the purpose of combinatorial analysis XRD was undertaken for all locations. The XRD patterns for all columns are shown below.

Column B

Figure 1: XRD patterns for all grid positions in column B. A progression is observed from cassterite SnO$_2$ at B1, through to Anatase TiO$_2$ which exhibits preferential orientation at B4.
Column C

Figure 2: A similar progression can be seen in column C where C1 exhibits cassiterite SnO$_2$ through to preferentially orientated anatase TiO$_2$ in C4.

Column D

Figure 3: A progression can be seen from classical anatase TiO$_2$ in D1 through to preferentially orientated anatase TiO$_2$ in D4.
Column E

Figure 4: No change from E1 to E4 is seen and remains classical anatase TiO₂ throughout.

UV/Vis

UV-Visible spectroscopy was undertaken for all points but only spectrums in column A or Row 4 were used for swanepoel analysis to determine the thickness of the film at each grid location. The absorbance spectrums are provided below.

A1

Figure 5: UV/Visible spectrum for grid position A1.
Figure 6: UV/Visible spectrum for grid position A2.

Figure 7: UV/Visible spectrum for grid position A3.
Figure 8: UV/Visible spectrum for grid position A4.

Figure 9: UV/Visible spectrum for grid position B4.
Figure 10: UV/Visible spectrum for grid position C4.

Figure 11: UV/Visible spectrum for grid position D4.
Figure 12: UV/Visible spectrum for grid position E4.