Adsorption and photolysis of trimethyl acetate on TiO_2(B)(001) studied with synchrotron radiation core level photoelectron spectroscopy

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Highlights

- Trimethyl acetic acid was adsorbed on a thin film of TiO2(B)(001) formed on Au(111).
- The structure of the formed trimethyl acetate (TMA) layer and its depletion under UV radiation was explored using core level photoelectron spectroscopy.
- A TMA overlayer with (2x1) periodicity was proposed.
- The initial TMA depletion rate was found to be two times higher on TiO2(B)(001) than on the reduced rutile TiO2(110) surface.