Supporting Information

From Semiconductors to Semimetals: Bismuth as Photocatalyst for NO Oxidation in Air

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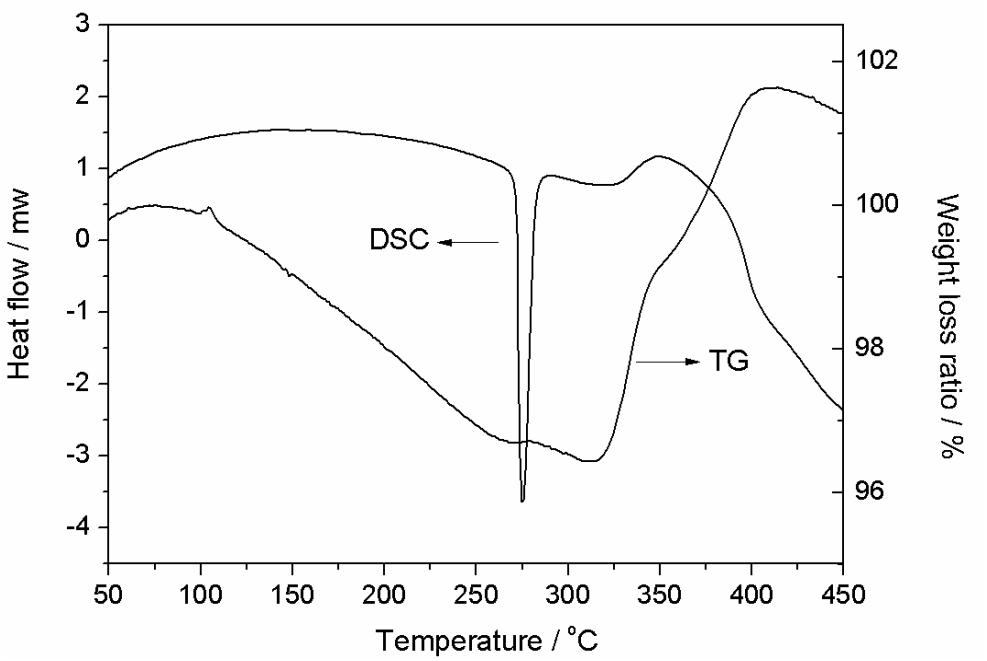

Figure S1. TG/DSC characterization of as-synthesized Bi films.

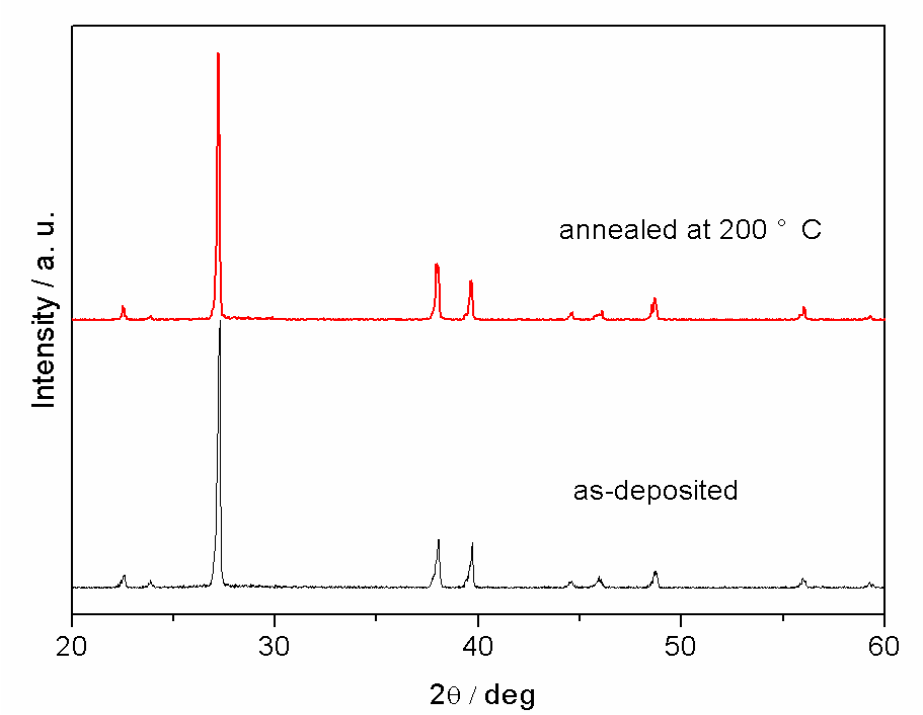

Figure S2. Synchrotron PXRD patterns of as-deposited and annealed (200 °C) Bi films.

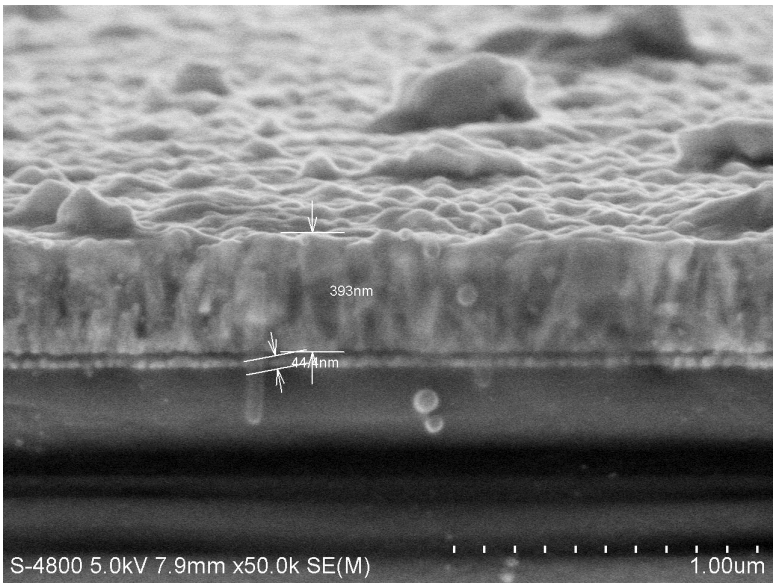

Figure S3. Representative cross-sectional SEM image of as-deposited Bi film.

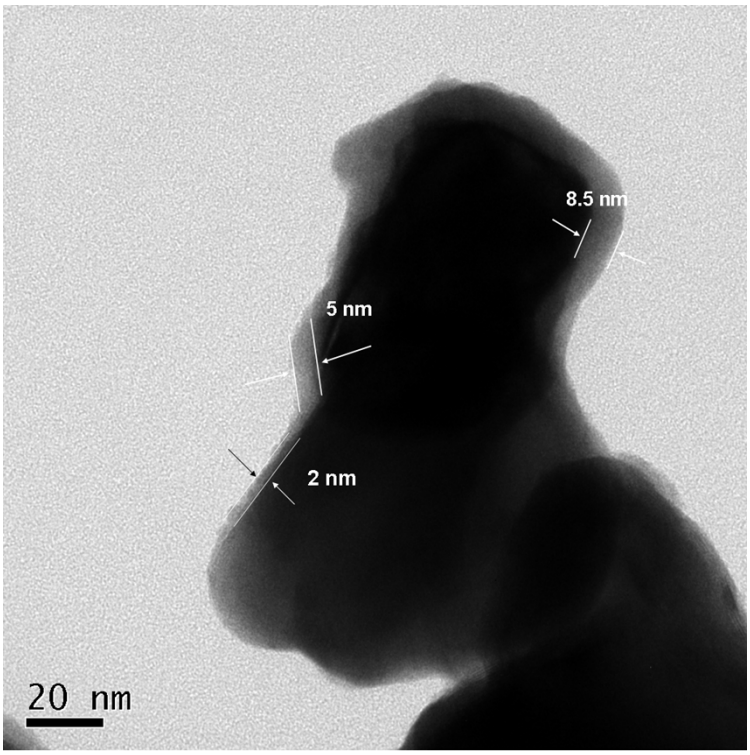

Figure S4. Representative TEM image of Bi particles.

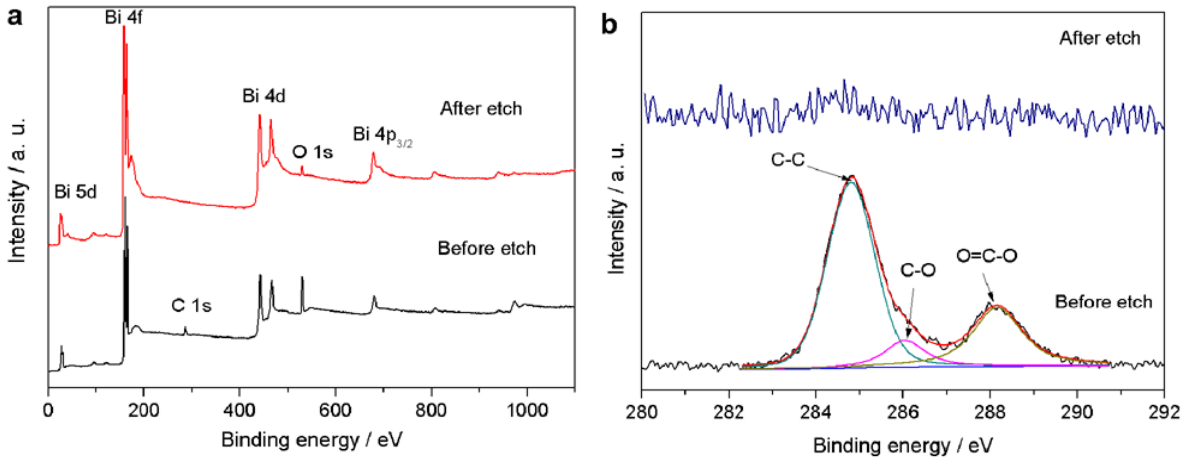

Figure S5. (a) Representative survey and (b) C 1s XPS spectra of Bi particles before and after ion etching.

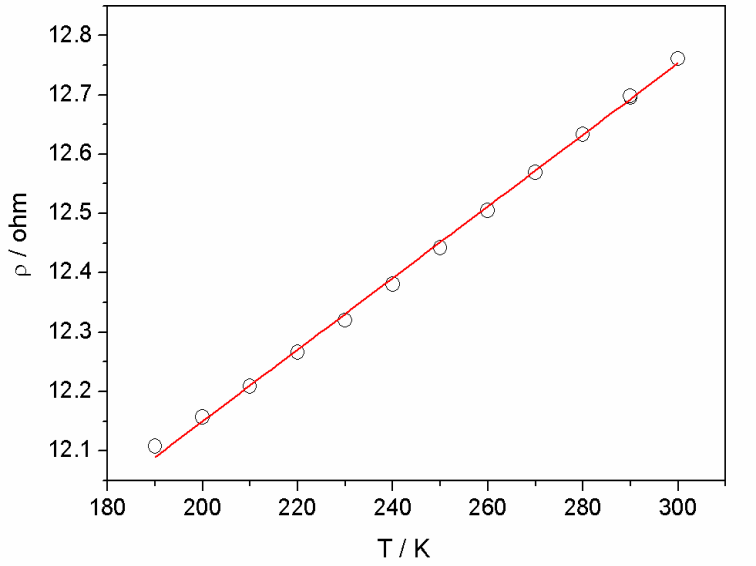

Figure S6. Temperature dependence of the electrical resistivity for Bi films.

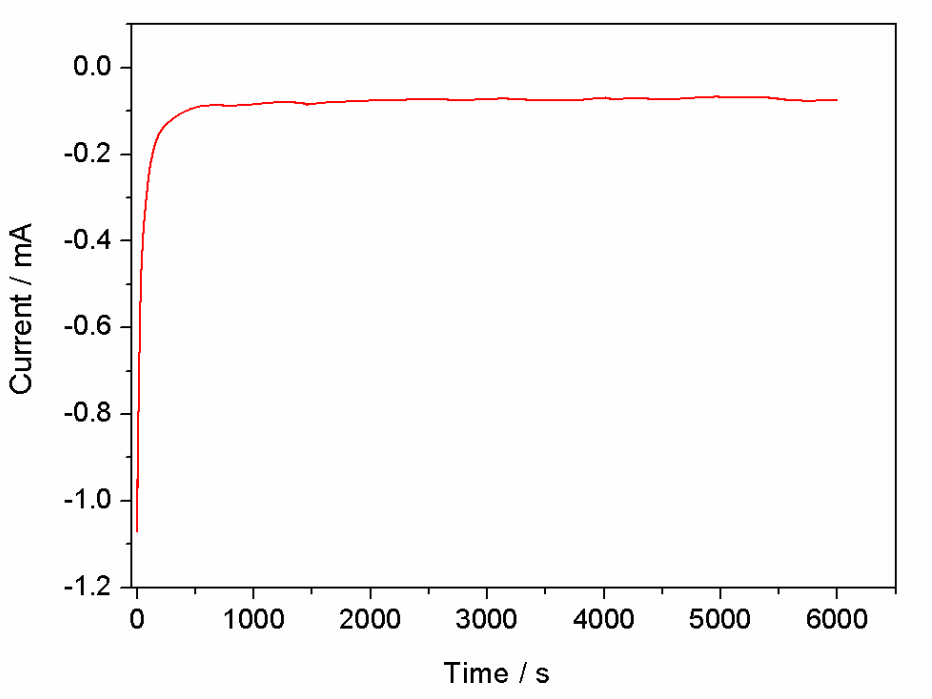

Figure S7. Current-time curve for the reduction process of Bi films.

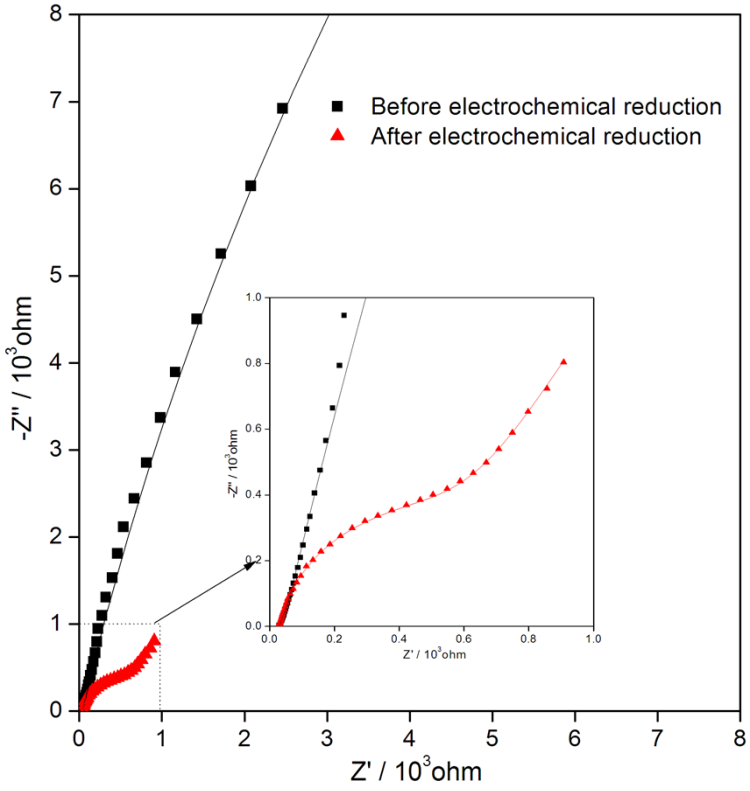

Figure S8. Electrochemistry impedance spectroscopy (EIS) for the Bi electrode before and after electrochemical reduction in 0.5M Na_2SO_4 solution.

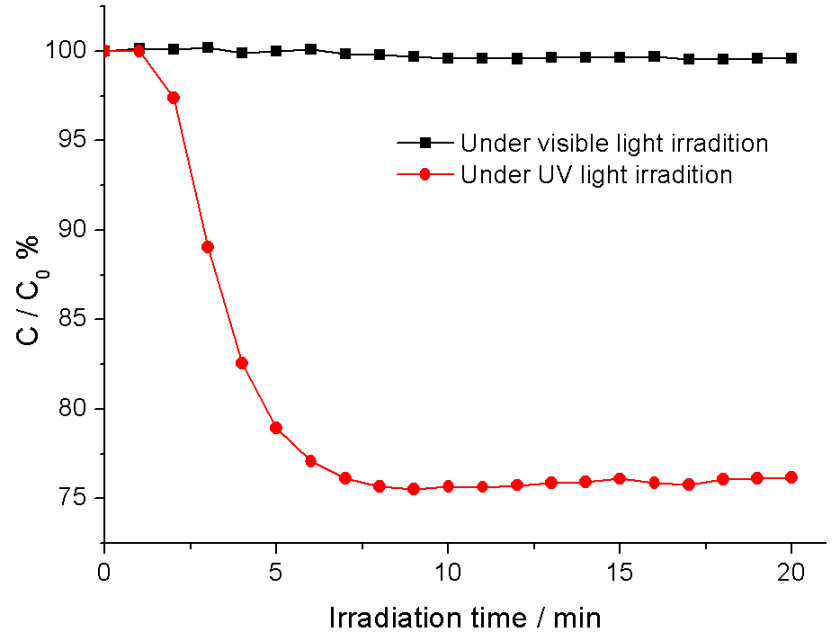

Figure S9. Photocatalytic activity of Bi films under UV and visible light irradiation for removal of NO in air.

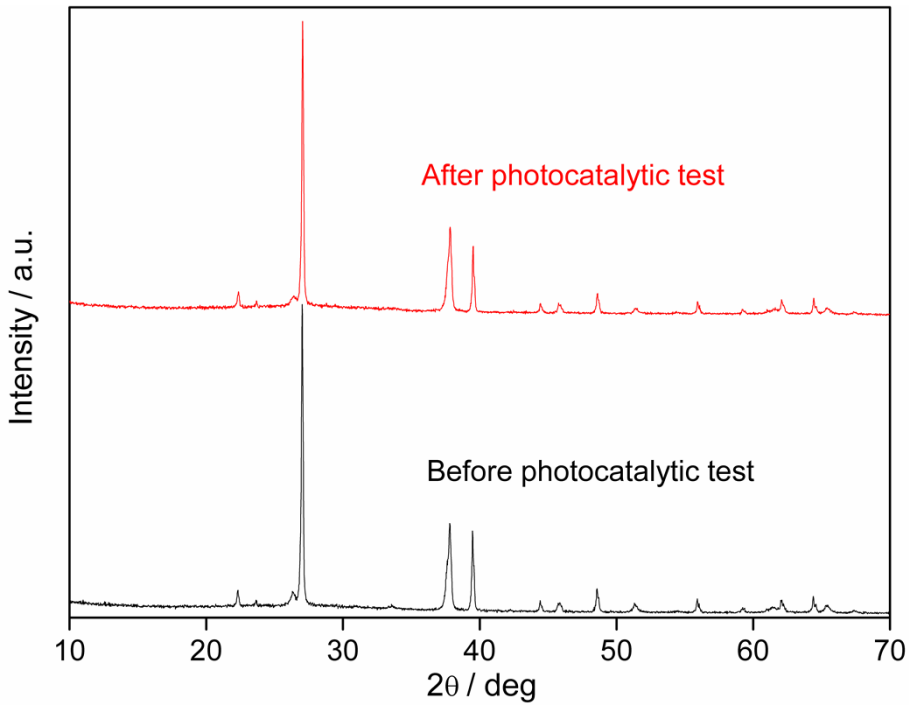

Figure S10. PXRD patterns of Bi films before and after photocatalytic tests.

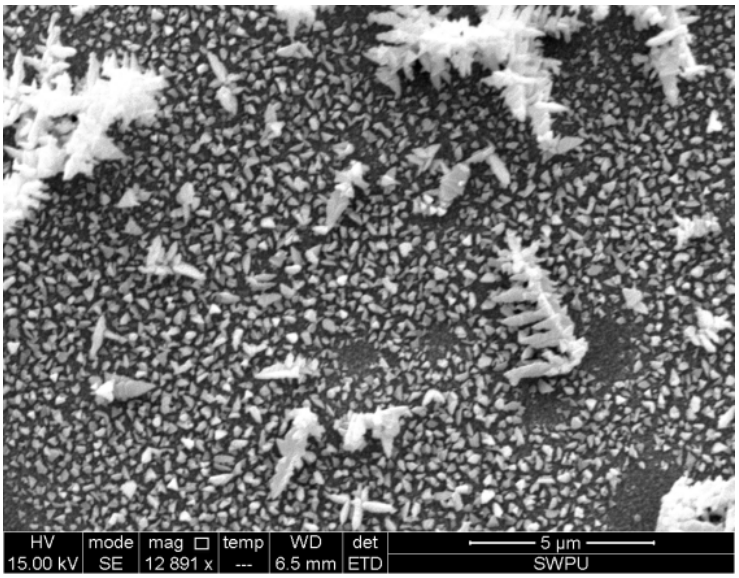

Figure S11. SEM image of Bi films after photocatalytic tests.

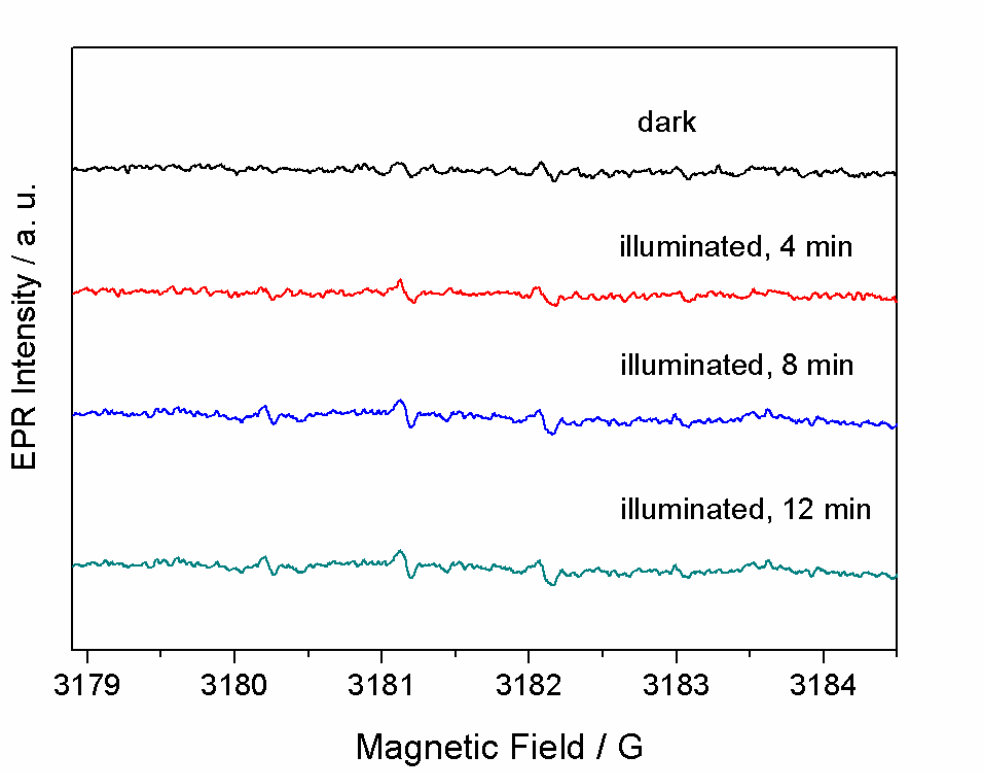

Figure S12. Time-dependent ESR spectra of DMPO-•OH for Bi films in the dark and under UV light irradiation.

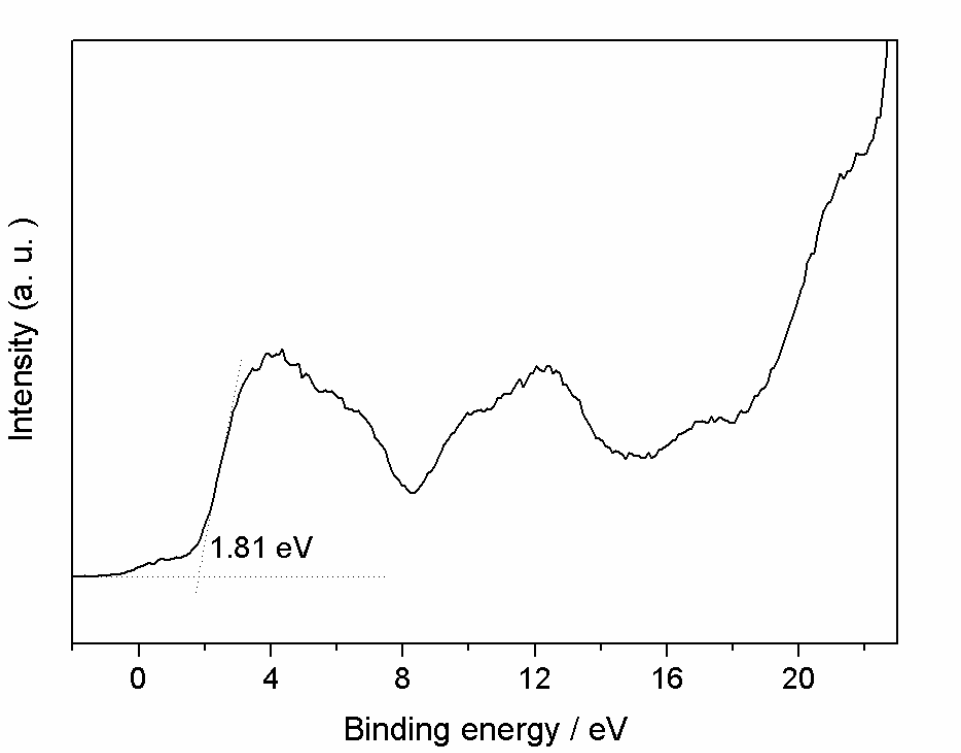

Figure S13. Typical XPS valence band spectrum of Bi films.