Supporting Information

MXenes with Tunable Work Functions and Their Application as Electron- and Hole-Transport Materials of Non-Fullerene Organic Solar Cells

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(a) U-MXene
(b) H-MXene

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Figure S1. UPS spectra change vary with the exposure time under UPS of (a) U-MXene, (b) H-MXene, (c) UH-MXene, (d) HU-MXene and (e) P-MXene.

Figure S2. Raman spectrum of P-MXene and MXenes by various treatments. A and R stand for the anatase and rutile phases of TiO$_2$, respectively.
Figure S3. N1s XPS spectrum of MXene under different treatment condition

Figure S4. SEM image of MXene with (a) no treatment, (b) UVO treatment for 15 min and (c) UVO treatment for 60 min.
Figure S5. Ti2p XPS spectra of (a) P-MXene and H-MXenes and (b) U-MXene, UH-MXene and HU-MXenes.

Figure S6. T2p XPS spectrum of TiO₂ with no treatment or N₂H₄ treatment. The TiO₂ was prepared by the sol-gel method.
Figure S7. UPS spectrum of sol-gel TiO$_2$ by different treatments.

Figure S8. C1s XPS spectra of P-MXene and H-MXenes.
Figure S9. Transmittance spectra of PEDOT:PSS, U-MXene and UH-MXene. The thickness of MXene layer was around 8 nm.