Supporting Information

Chemical Unzipping of WS_2 Nanotubes

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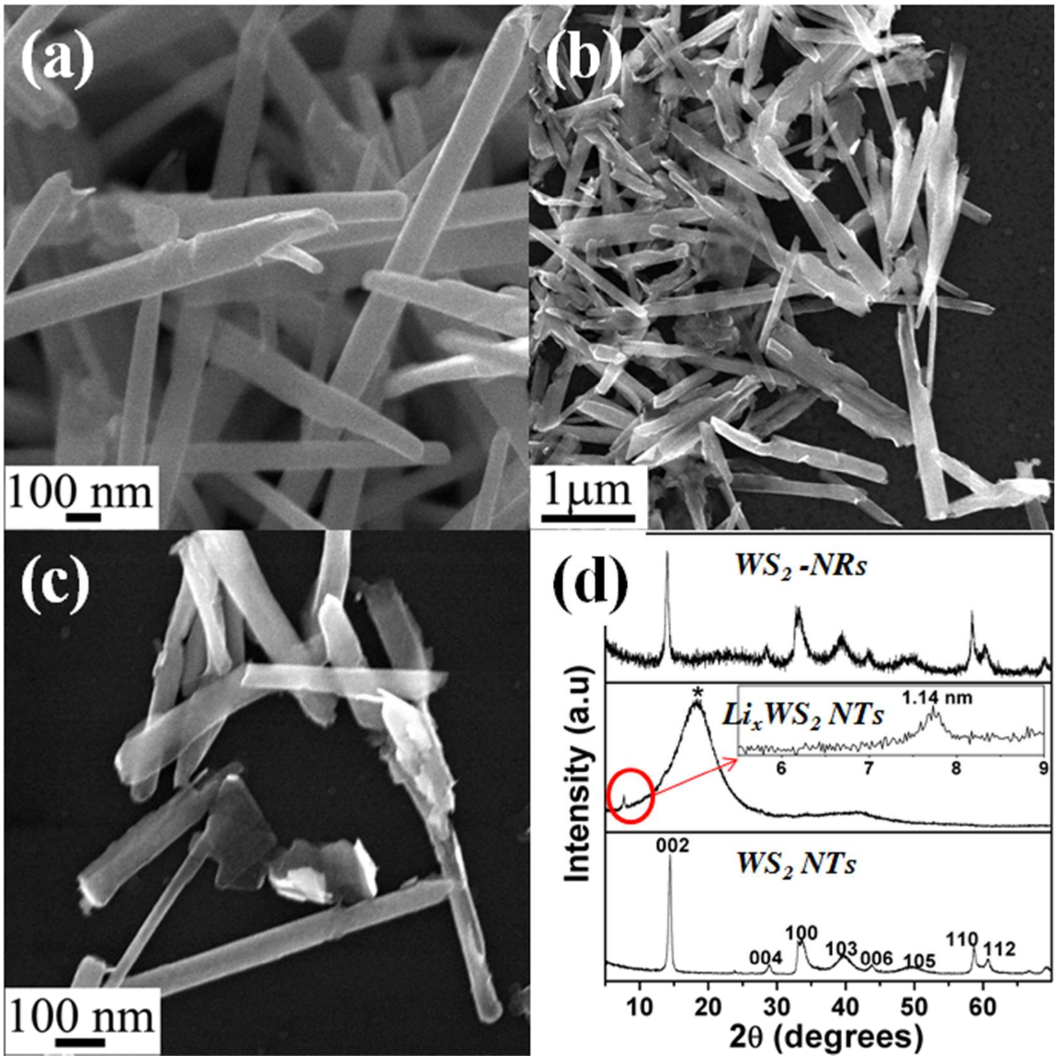

Figure S1 SEM image of WS_2-NTs (a), low– (b) and high– (c) magnification SEM images of WS_2-NRs obtained by unzipping Li_xWS_2-NT using octanethiol. XRD patterns (d) of WS_2-NRs unzipped using octanethiol compared with Li_xWS_2-NTs and WS_2-NTs. (*) Represents the peak due to paraffin used as a mask to prevent Li_xWS_2 from reacting with atmospheric moisture.

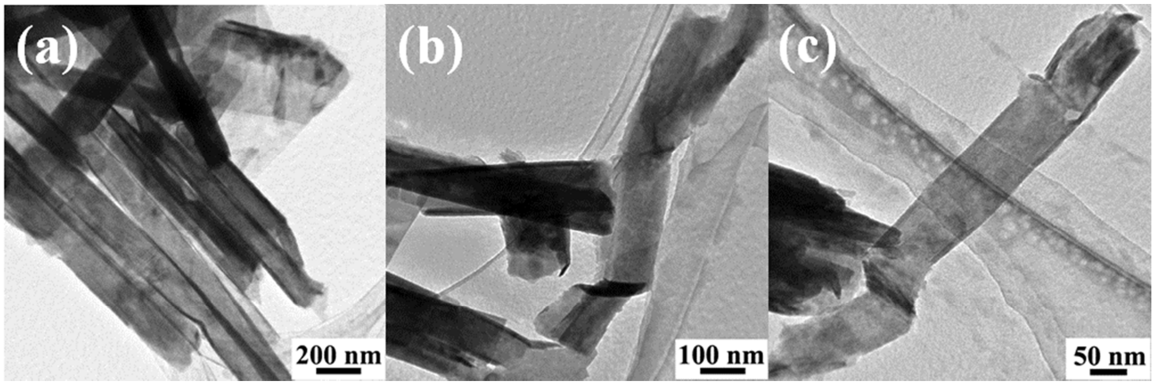

Figure S2 (a-c) Bright field TEM images of WS_2-NRs obtained by unzipping Li_xWS_2-NTs using octanethiol.

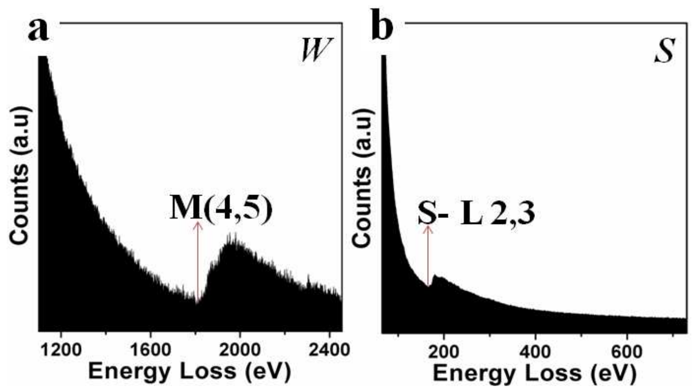

Figure S3 Electron energy loss spectra (EELS) of WS_2-NRs obtained by unzipping Li_xWS_2–NTs using octanethiol. W (a) and S (b) edges are separately shown.

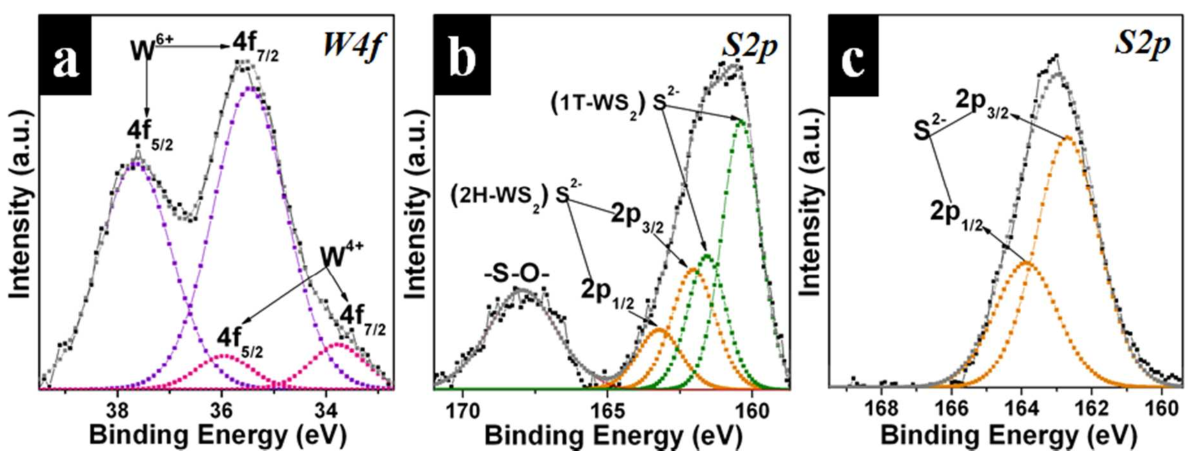

Figure S4 Core level W4f (a) and S2p (b) XPS spectra of Li_xWS_2-NTs unzipped using water; and S2p (c) XPS spectra of WS_2-NRs obtained by unzipping Li_xWS_2-NTs using octanethiol.