## Supplementary Information for

## Bulk Pt/CsPbBr<sub>3</sub> Schottky Junctions for Charge Boosting in Robust Triboelectric Nanogenerators

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**Figure S1.** Statistical grain size distribution of pristine CsPbBr<sub>3</sub> and Pt/CsPbBr<sub>3</sub> films at different Pt dosages.



**Figure S2.** Cross-sectional SEM image of the 1% Pt/CsPbBr<sub>3</sub> film.



**Figure S3. (a)** XRD patterns of the Pt/CsPbBr<sub>3</sub> films at various Pt dosages. **(b)** EDS mapping of the 0.5% Pt/CsPbBr<sub>3</sub> film surface.



**Figure S4.** (a) High-resolution XPS spectra of Pt/CsPbBr<sub>3</sub> films with various Pt dosages. XPS spectra of (b) Cs 3d and (c) Br 3d.



Figure S5. The comparison of (a) voltage, (b) current and (c) transfer charge outputs performance at

various contact frequencies for pristine  $CsPbBr_3$  and 0.5% Pt/CsPbBr\_3 TENGs.



**Figure S6.** (a-g) The impacts of contact frequency on charging behavior of pristine and CsPbBr<sub>3</sub> and 0.5% Pt/CsPbBr<sub>3</sub> TENGs with load capacitances ranging from 1 to 47  $\mu$ F. (h) The  $V_{oc}$  output performances of perovskite TENGs at various capacitances with charging period of 300 s.