Electronic Supplementary Information

Bridging the gap: An in-depth comparison of the CVT-grown layered transition metal dichalcogenides for supercapacitor application

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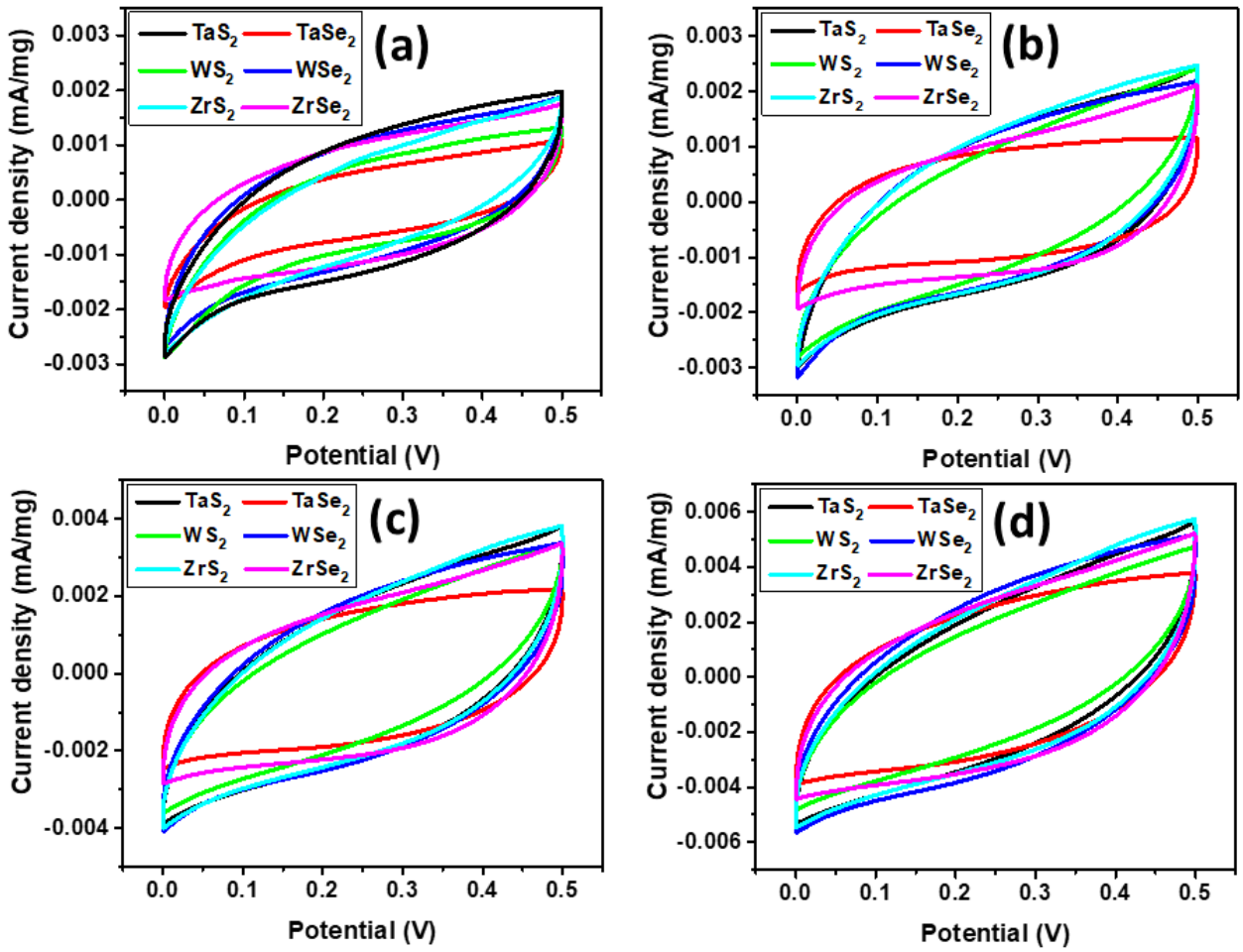

Figure S1. Cyclic voltammetry of the prepared electrodes at (a) 5, (b) 10, (c) 20 and (d) 40 mV/s scan rates.

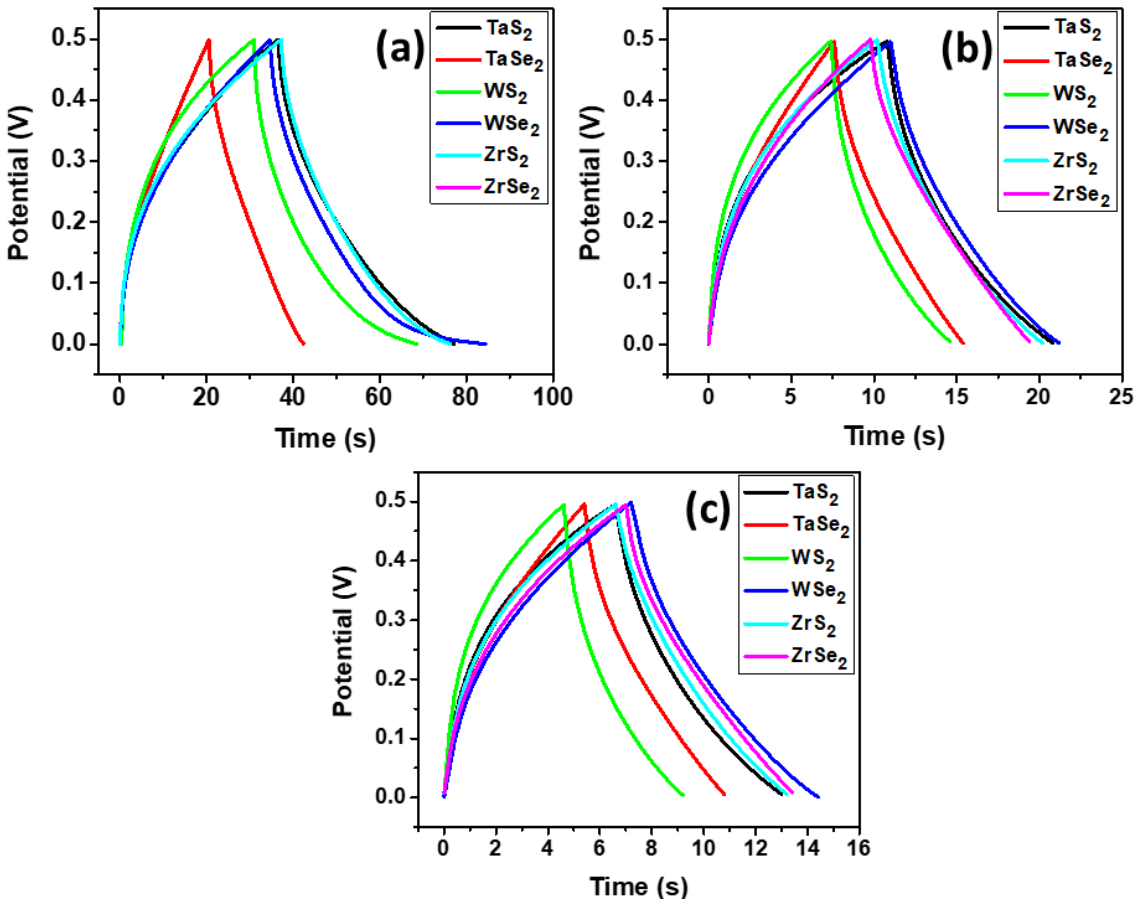

Figure S2. Galvanostatic charge-discharge curves measured at (a) 0.2 A/g, (b) 0.4 A/g and (c) 0.5 A/g current densities.

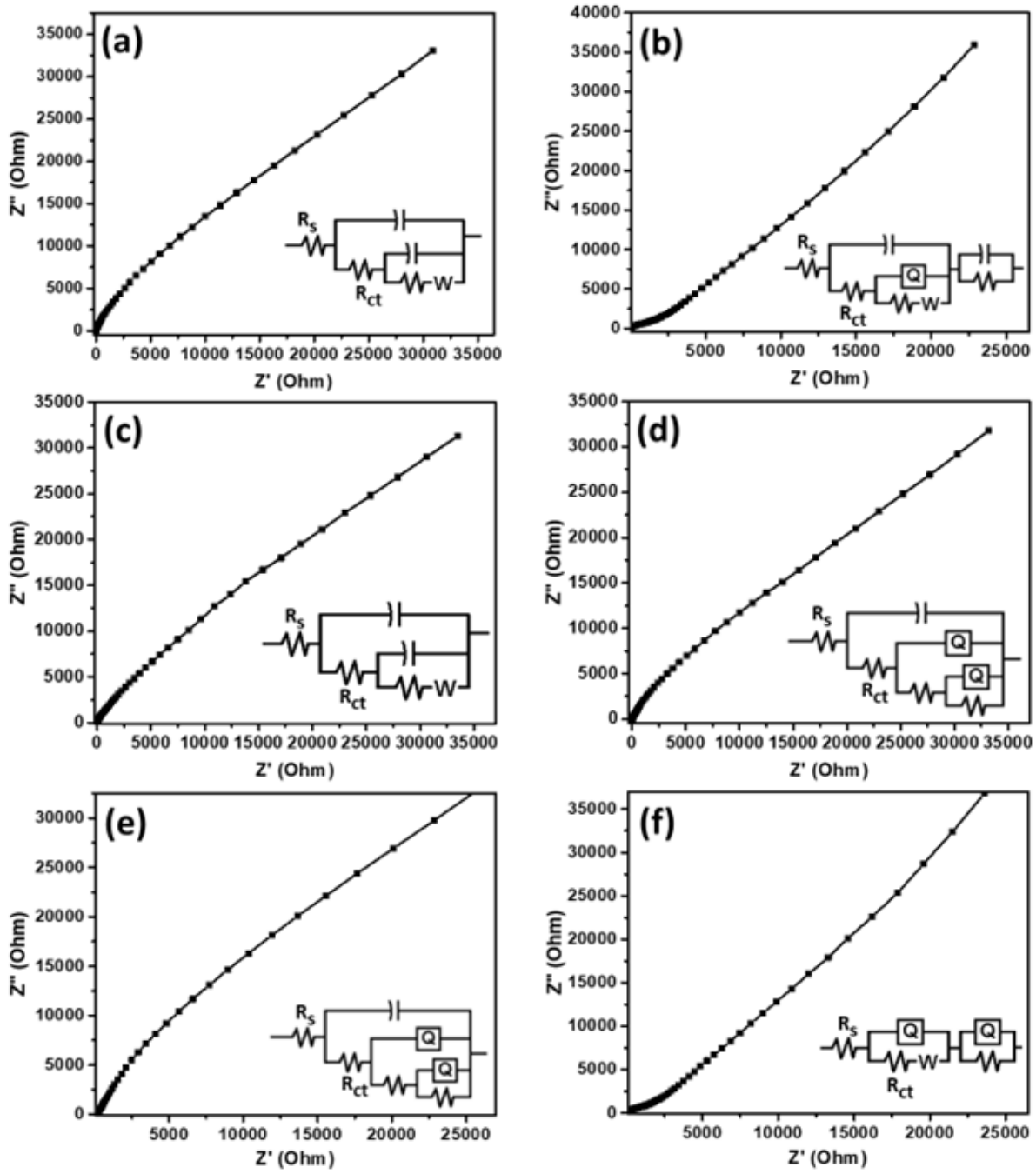

Figure S3. Electrochemical impedance spectroscopy plots of (a) TaS_2, (b) $TaSe_2$, (c) WS_2, (d) WSe_2, (e) ZrS_2 and (f) $ZrSe_2$ with inset circuit models.

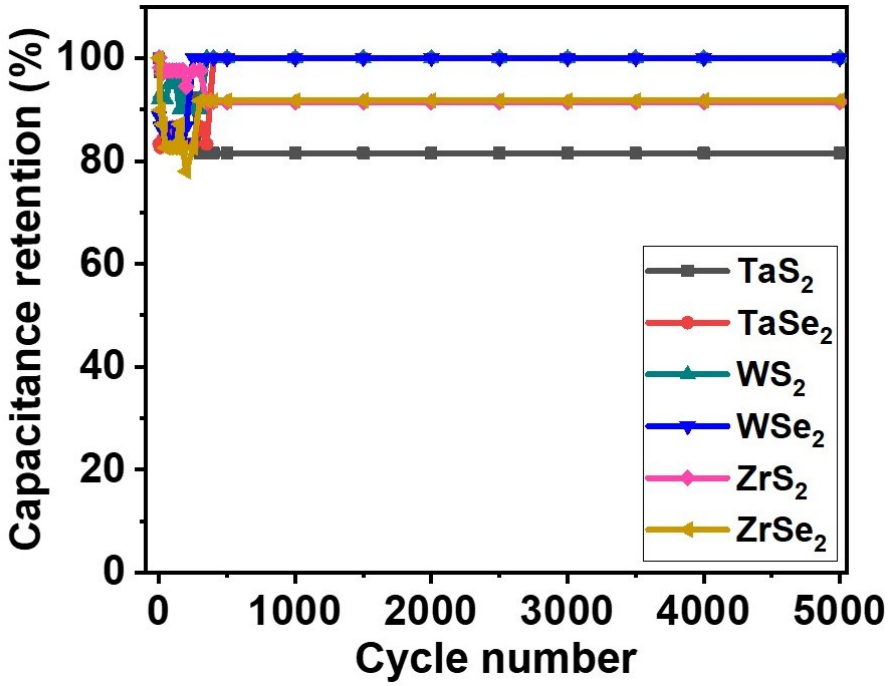

Figure S4. Combine stability curves of all the electrodes.

Table S1: A comparison of calculated gravimetric specific capacitances by both CV and GCD.

S #	Material	Capacitance calculated by CV	Capacitance calculated by GCD
1	TaS_2	230 F/g	187 F/g
2	$TaSe_2$	168 F/g	89 F/g
3	WS_2	186 F/g	154 F/g
4	WSe_2	224 F/g	203 F/g
5	ZrS_2	225 F/g	183 F/g
6	$ZrSe_2$	209 F/g	159 F/g