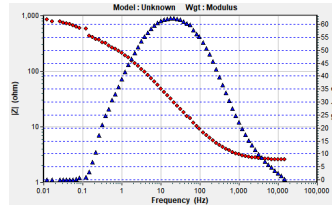
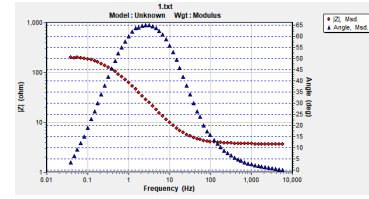


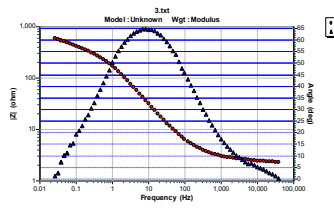
6061 aluminum alloy



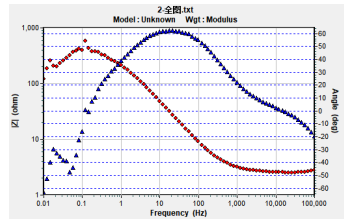
7075 aluminum alloy



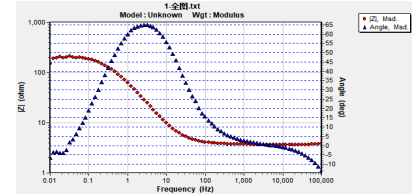
galvanized steel



conversion film on 6061 aluminum alloy



conversion film on 7075 aluminum alloy



conversion film on galvanized steel

**Figure S1:** Bode and Bode Phase graphs

**Table S1:** The parameters of  $R_s$ ,  $R_f$ ,  $Q_1$ ,  $Q_2$  and  $R_{ct}$

Samples	$i_{corr}/\mu A \cdot cm^{-2}$	$E_{corr}/V$	$R_{ct}/\Omega$	$R_s/\Omega$	$R_f/\Omega$	$Q_1$	$Q_2$
with conversion AA6061	0.174	-1.084	84610	8.66	3675	$6.317 \times 10^{-5}$	$9.334 \times 10^{-5}$
without conversion AA6061	1.096	-1.151	0.268	12.97	919	$8.661 \times 10^{-4}$	$6.221 \times 10^{-4}$
with conversion AA7075	0.018	-0.603	23250	7.03	2876	$9.112 \times 10^{-5}$	$3.666 \times 10^{-5}$
without conversion AA7075	1.470	-0.653	19330	11.64	799	$7.663 \times 10^{-4}$	$2.729 \times 10^{-4}$
with conversion galvanized steel	1.012	-0.838	13010	6.07	2017	$1.117 \times 10^{-4}$	$3.915 \times 10^{-4}$
without conversion galvanized steel	6.312	-0.938	5441	9.88	366	$7.664 \times 10^{-4}$	$9.226 \times 10^{-3}$