Electronic Supplementary Material (ESI) for Sustainable Energy & Fuels.

Supplementary information

Table S1. Relative atomic percentage of nitrogen and phosphorous species obtained from high-resolution deconvolution of N 1s and P 2p obtained from XPS spectra.

Electrocatalyst	Atomic relative percentage of nitrogen spices (at %)	Atomic relative percentage of phosphorous spices (at%)
B	N1 (34.4) N2 (33.4) N3 (24.2) NO^{-2} (8.1)	P-C (46.2) P-O (53.8)
B_{ST}	N1 (10.9) $N\text{-}NH_2$ (37.2) N3 (10.8) N4 (34.7) NO^{-3} (6.4)	P-O (53.6) P=O (46.4)
B_K	N1 (62.5) N2 (14.6) N4 (12.7) NO^{-2} (10.2)	ND
$B_{K\text{-}ST}$	N1 (42.3) N3 (29.3) N4 (8.1) NO^{-3} (20.3)	ND
B_H	Si_3N_4 (7.2) N1 (53.2) N2 (24.3) N4 (15.4)	P-O (61.9) P=O (38.1)
$B_{H\text{-}ST}$	Si_3N_4 (26.3) N1 (13.3) N2 (34.3) N4 (26.1)	P-C (45.1) P-O (39.6) P=O (15.3)

Figure S1

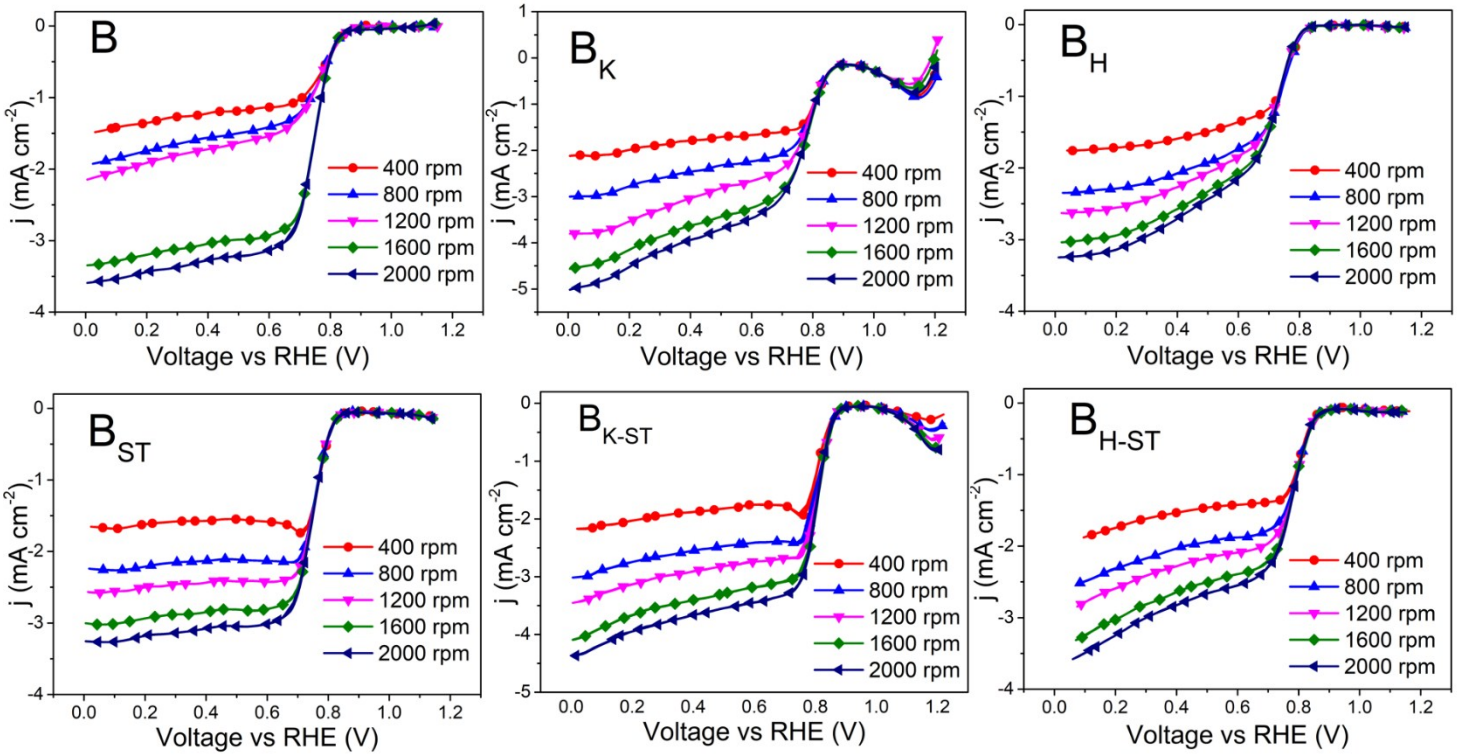

Figure S1. LSVs of the chicken manure-derived electrocatalysts performed in alkaline media (0.5 mol L^{-1} KOH) at scan rate of 5 mV s^{-1} in a potential window of 1.2 to 0.05 V vs. RHE.

Figure S2

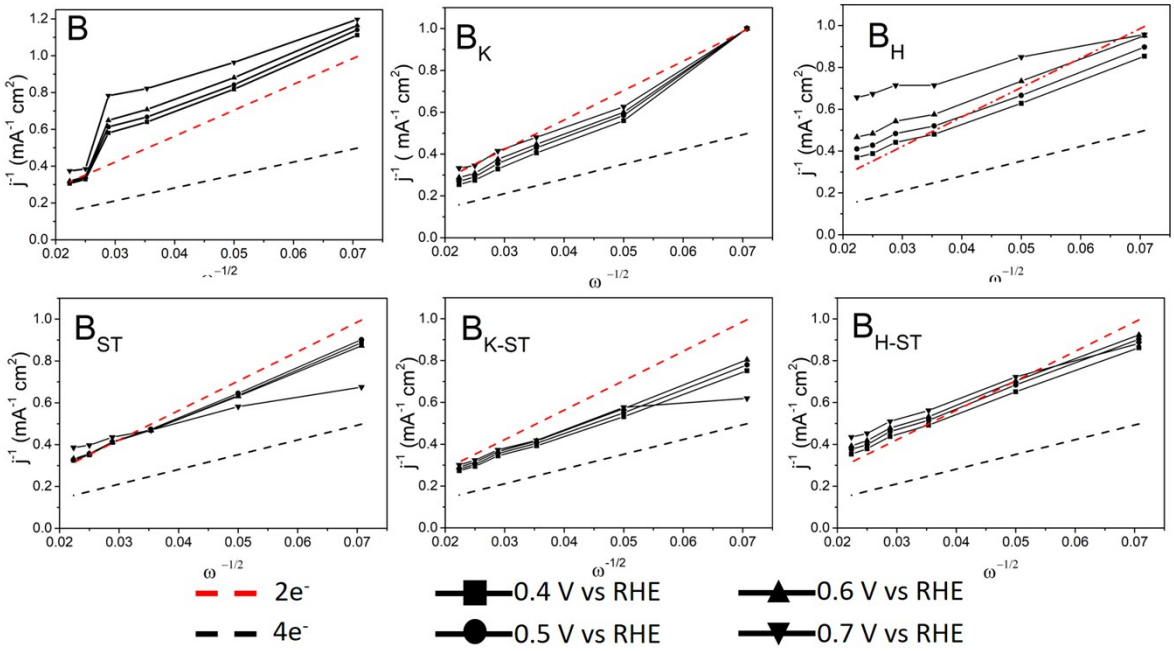

Figure S2. Koutecky-Levich plots of the non-noble metal electrocatalysts obtained from chicken manure.