Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Support Information

Controllable Pd Shell Thickness of Ni@Pd/PEI–rGO Stack Structures as Advanced Electrodes for Efficient Hydrogen Evolution

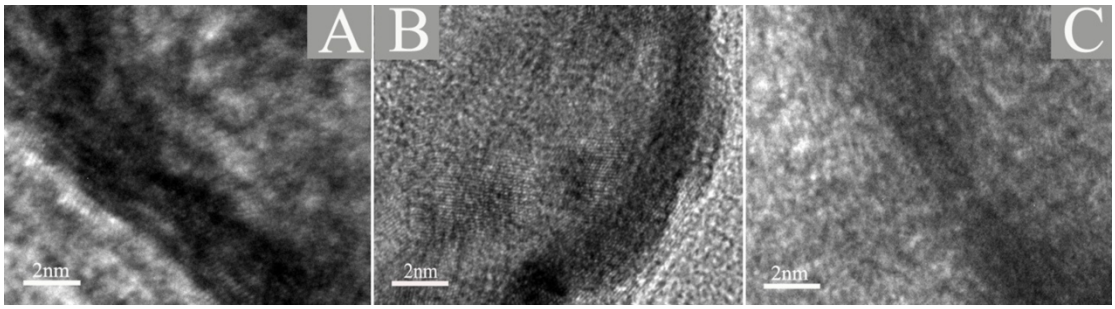

Fig. S1 HRTEM images of Pd shell thickness of (A) Ni@$Pd_{3:1}$ hybrids; (B) Ni@$Pd_{4:1}$ hybrids; (C) Ni@$Pd_{5:1}$ hybrids.

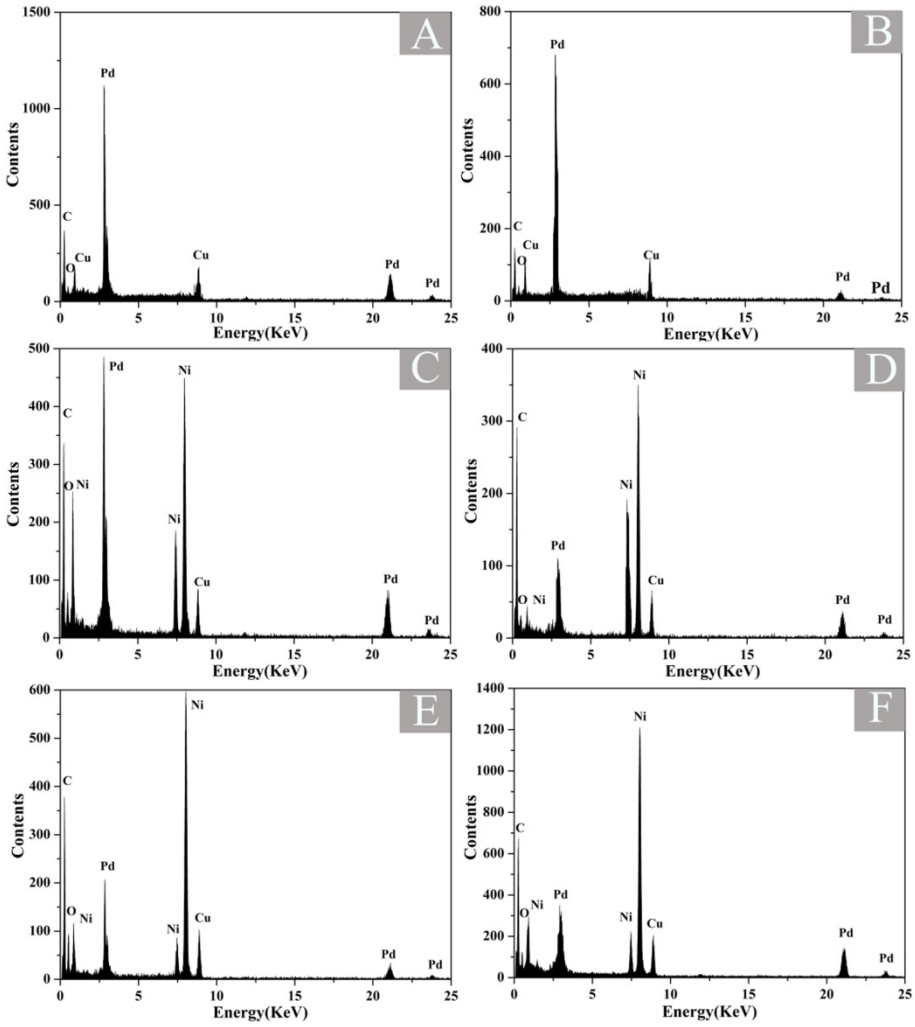

Fig. S2 EDX spectrum of (A) $Pd_{hollow-1}$ hybrids; (B) $Pd_{hollow-2}$ hybrids; (C) Ni@$Pd_{2:1}$ hybrids ; (D) Ni@$Pd_{3:1}$ hybrids; (E) Ni@$Pd_{4:1}$ hybrids; (F) Ni@$Pd_{5:1}$ hybrids.

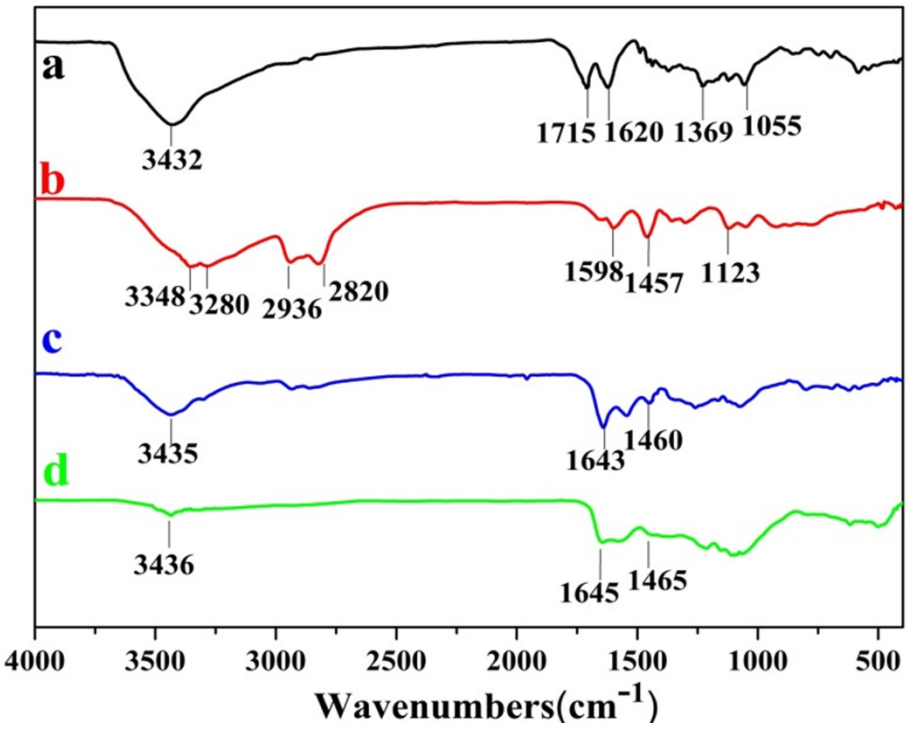

Fig. S3 FT-IR spectra of (a) GO; (b) PEI; (c) PEI–$rGO_{50:1}$; and (d) Ni@Pd $_{4:1}$/PEI–$rGO_{50:1.}$

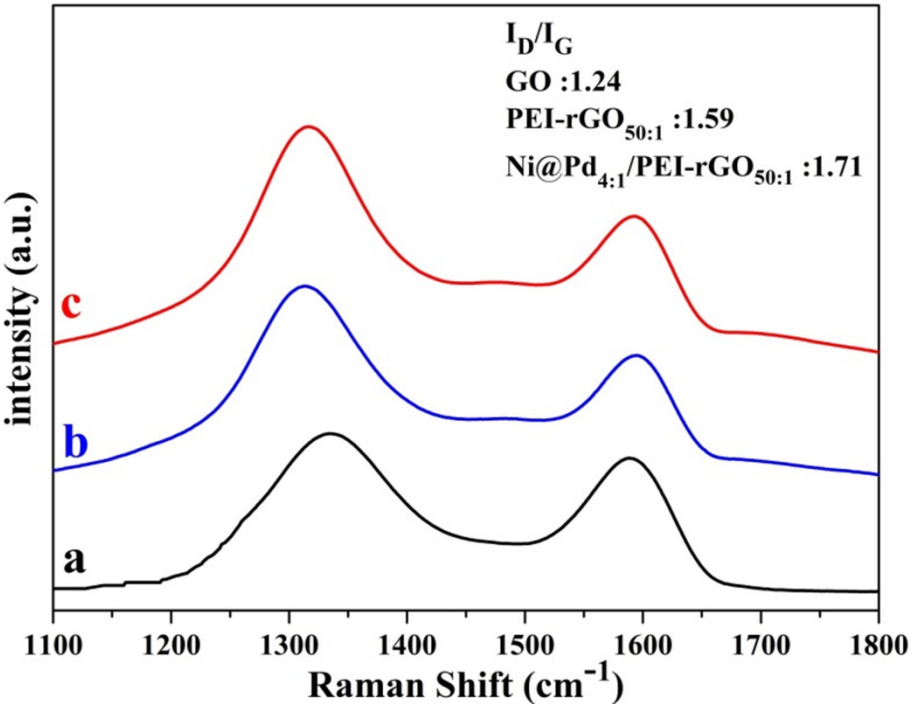

Fig. S4 Raman spectra of (a) GO; (b) PEI–$rGO_{50: 1}$ and (c) Ni@Pd $_{4:1}$/PEI–$rGO_{50: 1.}$

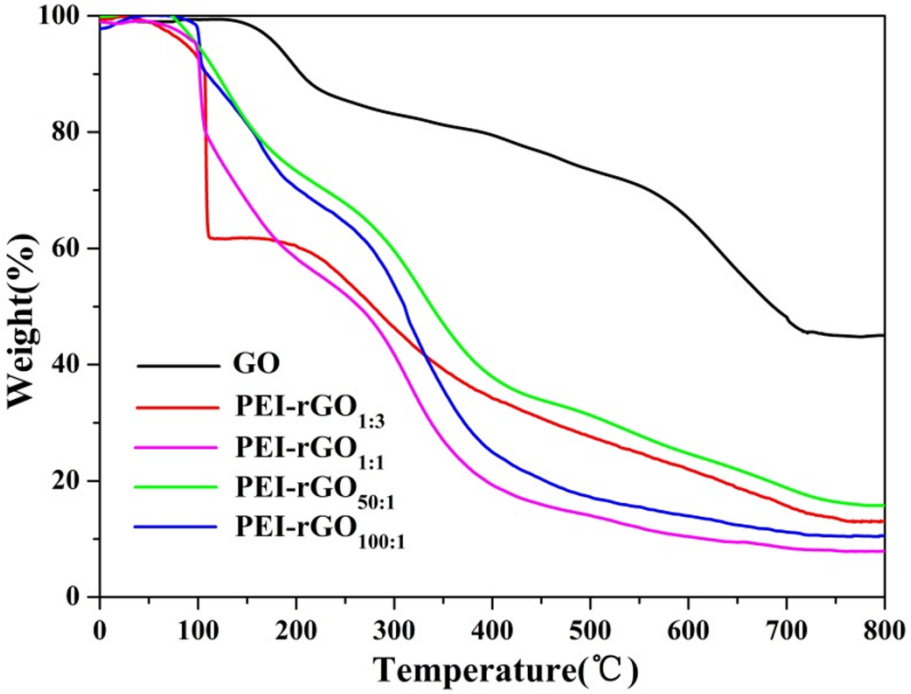

Fig. S5 TGA curves of GO, PEI–$rGO_{1:3}$, PEI–$rGO_{1:1}$, PEI–$rGO_{50:1}$, PEI–$rGO_{100:1}$.

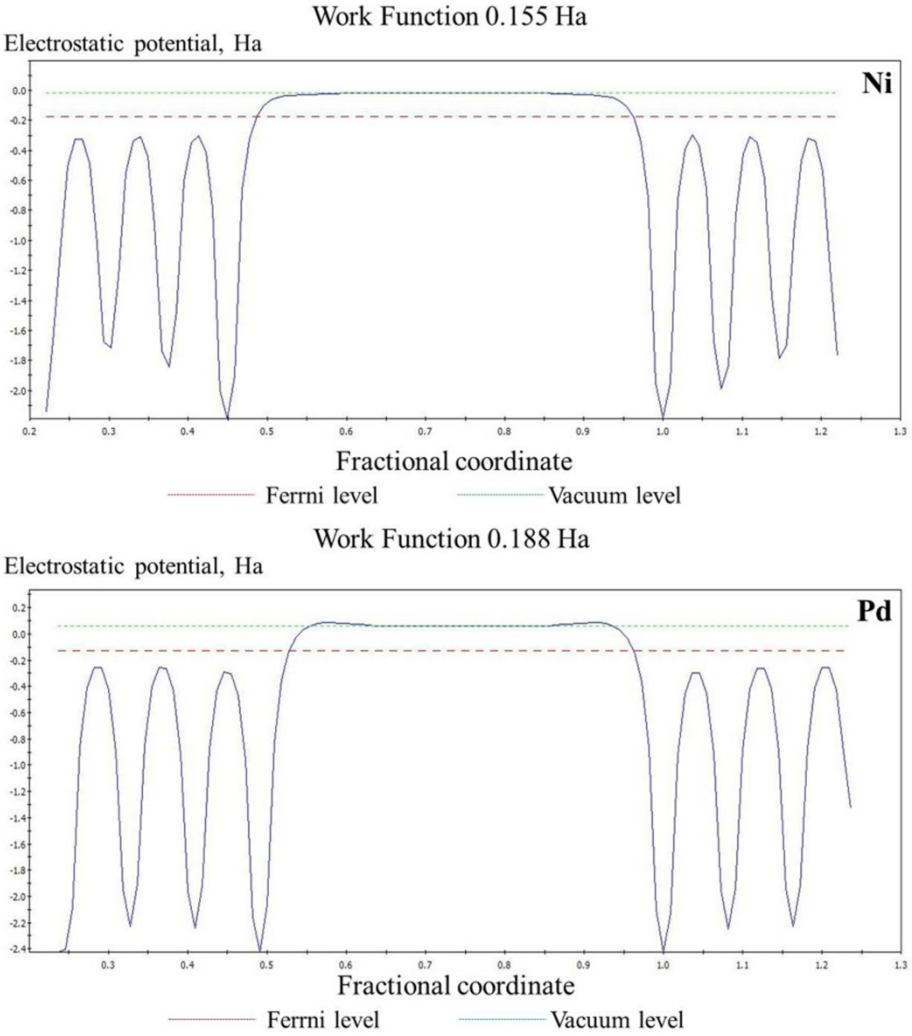

Figure S6. The calculated work functions for Ni (111) and Pd (111) surfaces (1Ha=27.212eV).