Supporting information

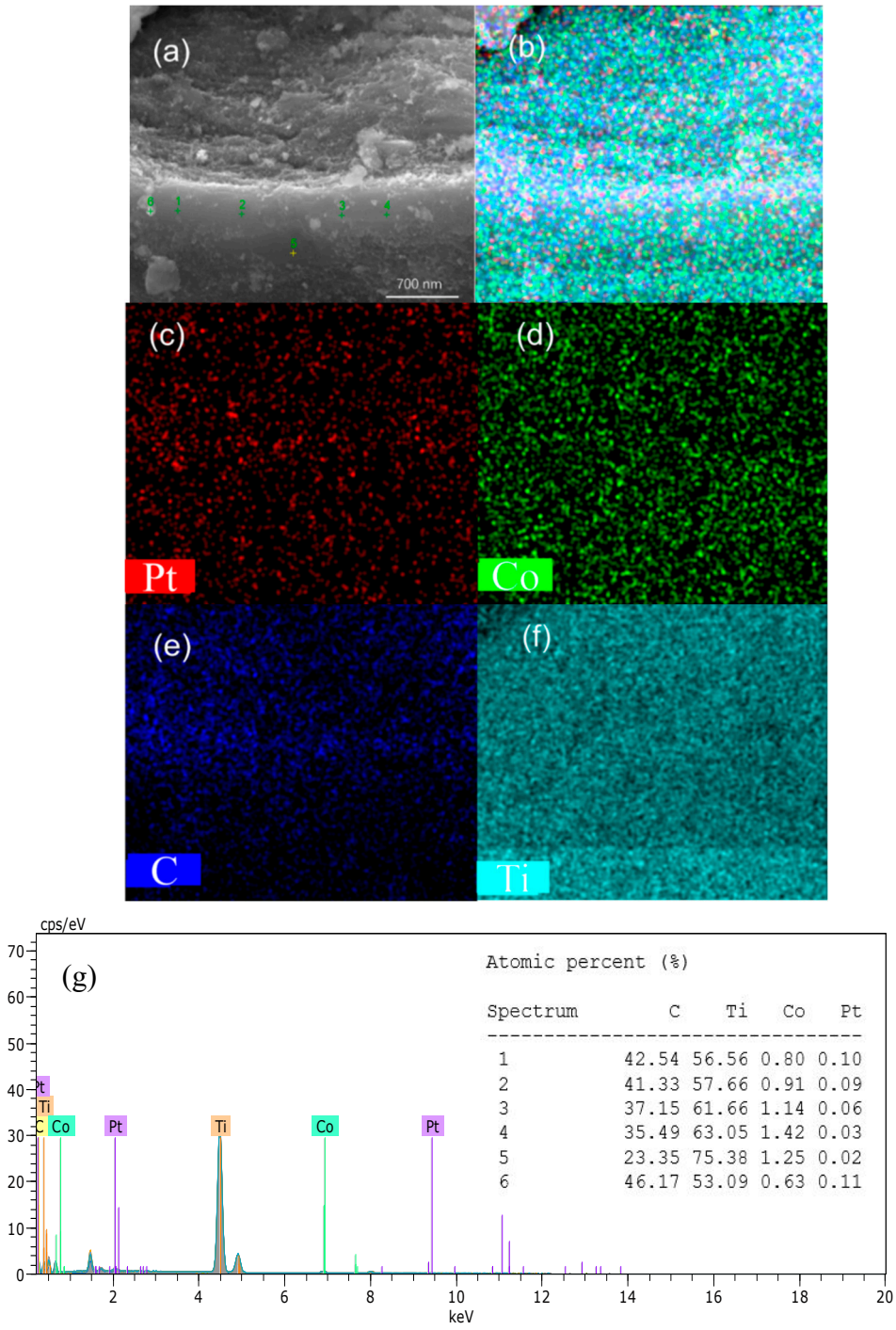


Fig.S1.(a) SEM image of PtCo/$Ti_3C_2T_x$-32, (b) EDS mapping of PtCo/$Ti_3C_2T_x$-32, (c) Pt element, (d) Co element, (e) C element, (f) Ti element; (g) element proportion at each point in map

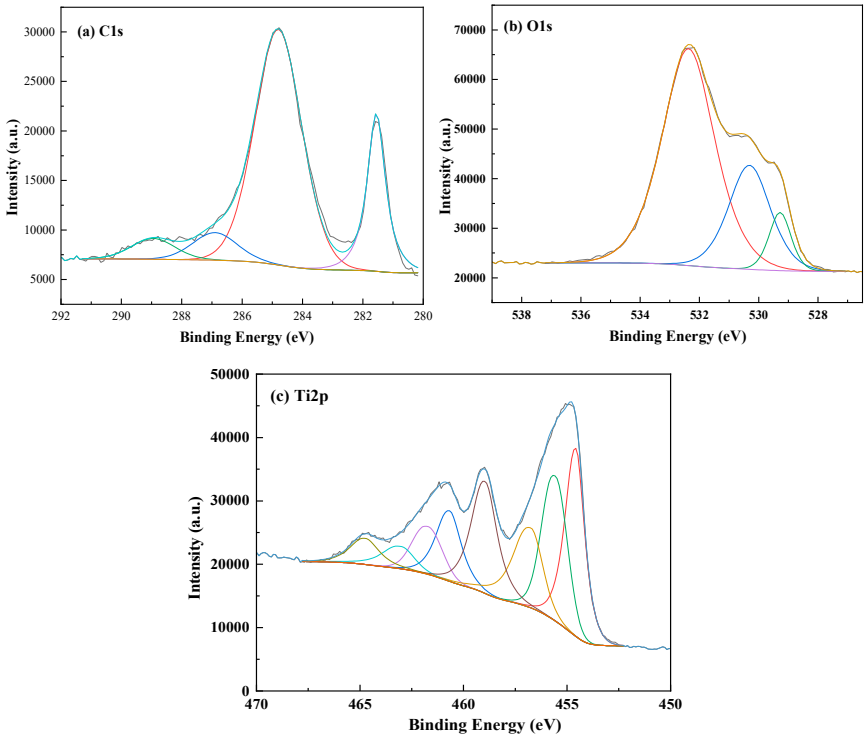


Fig.S2 XPS diagram of $Ti_3C_2T_x$

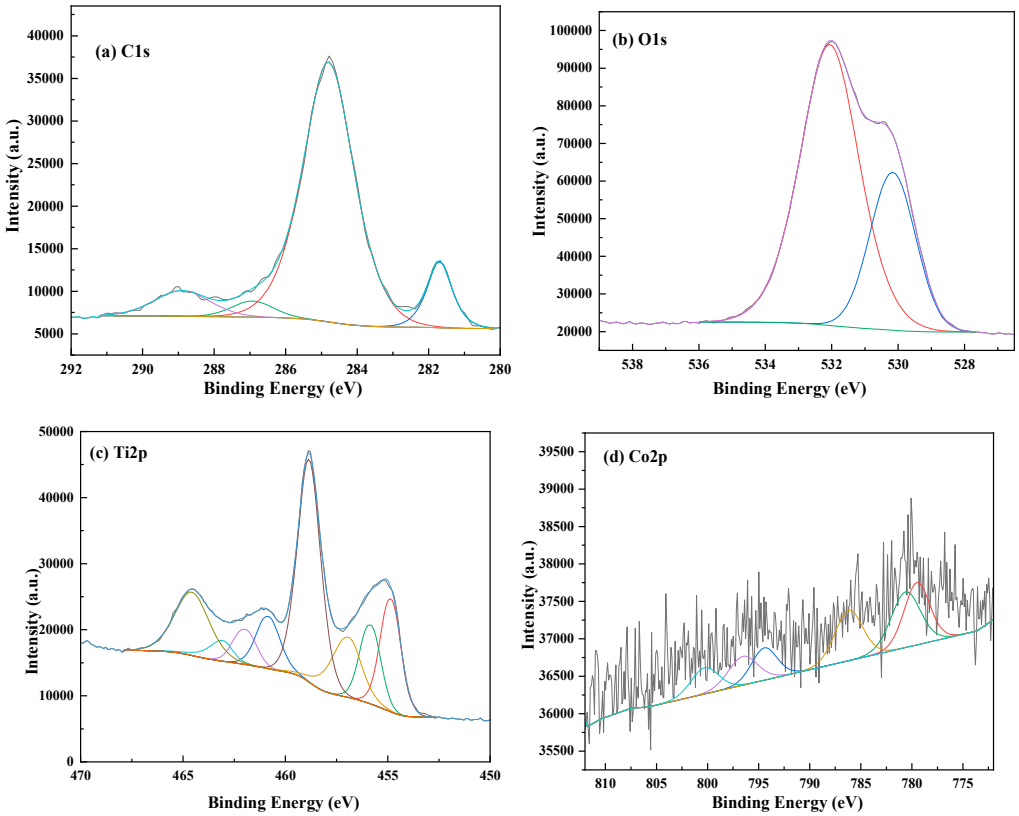


Fig.S3 XPS diagram of $Co/Ti_3C_2T_x$-32

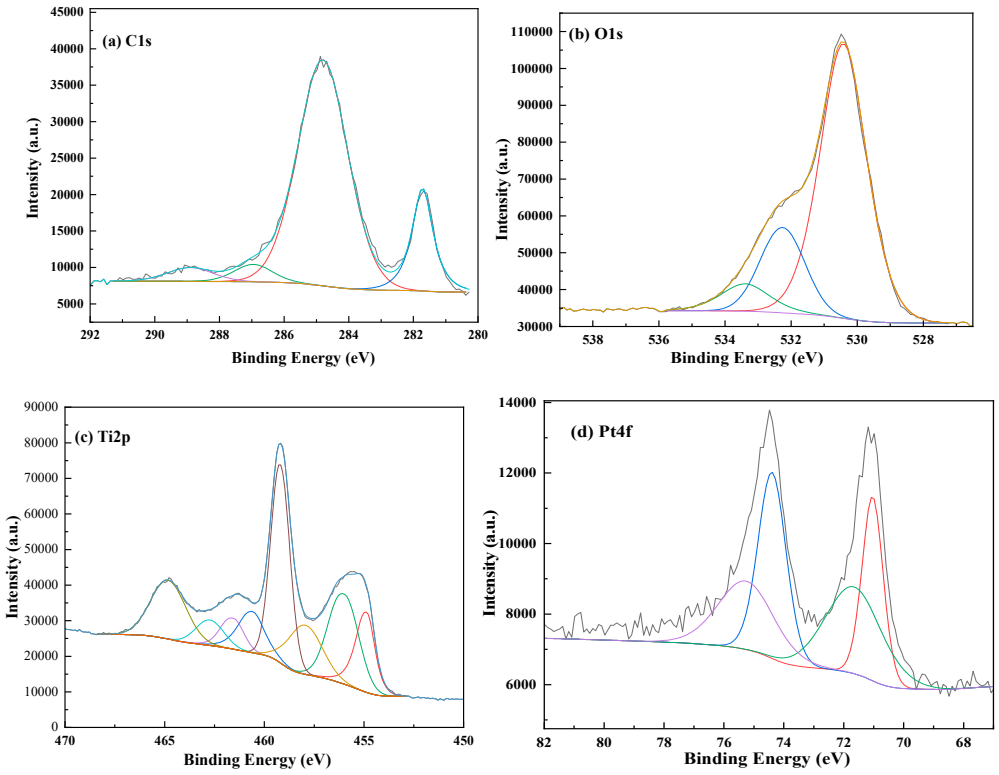


Fig.S4 XPS diagram of $Pt/Ti_3C_2T_x$-6.64

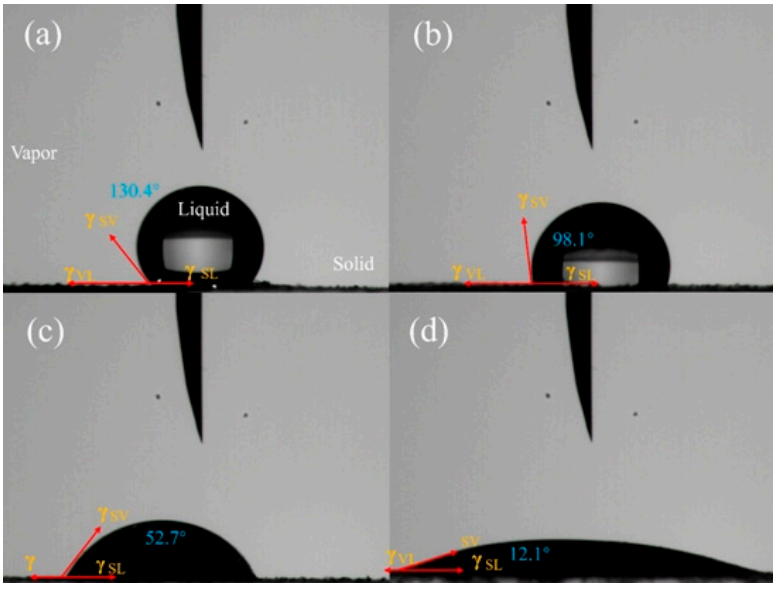


Fig.S5 Contact angles of (a) $Ti_3C_2T_x$, (b) $Pt/Ti_3C_2T_x$-6.64, (c) $Co/Ti_3C_2T_x$-32 and (d) $PtCo/Ti_3C_2T_x$-32

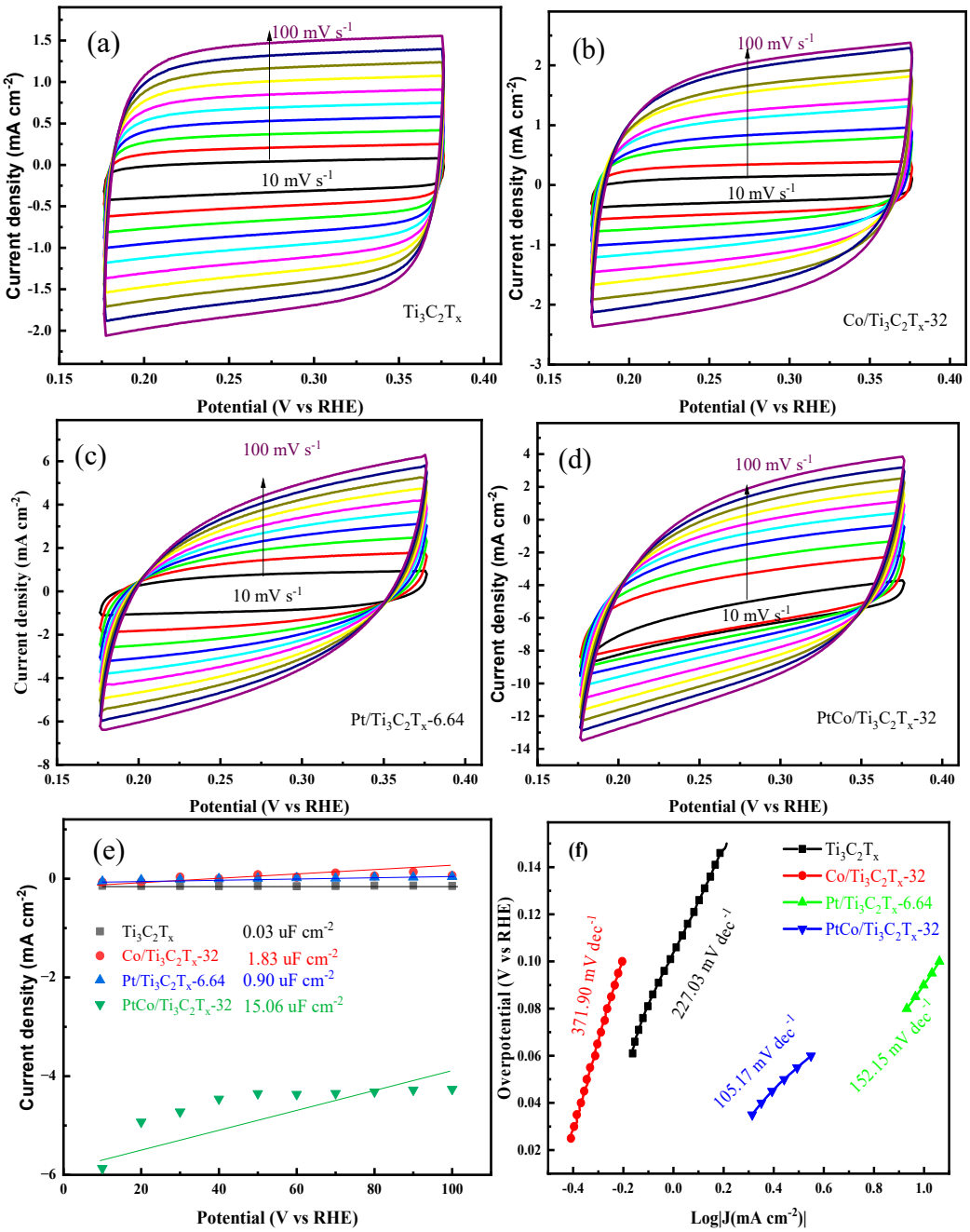


Fig.S6 CV diagram of (a) $Ti_3C_2T_x$, (b) $Co/Ti_3C_2T_x$-32, (c) $Pt/Ti_3C_2T_x$-6.64, (d) $PtCo/Ti_3C_2T_x$-32; (e) C_{dl} values and (f) Tafel slopes of $Ti_3C_2T_x$, $Co/Ti_3C_2T_x$-32, $Pt/Ti_3C_2T_x$-6.64 and $PtCo/Ti_3C_2T_x$-32 in 1 mol L^{-1} KOH solution.