SUPPORT INFORMATION

Fig 1 was the XRD patterns of Cr-V/Ti catalysts. As shown in Fig 1, the chromium oxides and vanadium oxide were highly dispersed on catalyst surface even for 5 % Cr loading, and there was only the anatase phase of TiO$_2$.

![XRD patterns of Cr-V/Ti catalysts.](image)

**Fig. 1.** XRD patterns of Cr-V/Ti catalysts.