**Figure S1**: Influence of flow rate on (a) methane conversion and (b) methanol selectivity in partial oxidation of methane over FePO₄ catalyst (GHSV = 2000-7000 h⁻¹, temperature = 300 °C and at methane to oxidant ratio of 1:1)
Figure S2: N$_2$ physisorption isotherms of FePO$_4$ catalyst. (a) fresh, (b) reduced (with CH$_4$) and oxidised with (c) N$_2$O, (d) O$_2$ and (e) H$_2$O.
Figure S3: Pore size distribution plot of FePO₄ catalyst
**Figure S4:** Powder X-ray diffraction of FePO$_4$ catalyst under various treatments [37] (Reprinted with permission from Springer Link)
**Figure S5**: Powder X-ray diffraction patterns of the used catalysts after reaction with (a) O₂, (b) N₂O and (c) H₂O.[37] (Reprinted with permission from Springer Link)