Controlling vanadium phosphate catalyst precursor morphology by adding alkane solvents in the reduction step of VOPO$_4$·2H$_2$O to VOHPO$_4$·0.5H$_2$O

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**Supplemental Information**

Figure S1. Laser Raman spectra of catalyst precursors.

Figure S2. Laser Raman spectra of sample VPD-O.

Figure S3. Laser Raman spectra of activated catalysts.
Figure S1. Laser Raman spectra of catalyst precursors VPD-B, VPD-BO, VPD-M and VPD-OB showing a main band at 986 cm$^{-1}$ corresponding to the VOHPO$_4$·0.5H$_2$O phase.
**Figure S2.** Laser Raman spectra of sample VPD-O showing main bands of VOPO$_4$$^\cdot$2H$_2$O at 990, 943 and 538 cm$^{-1}$ corresponding to the VOPO$_4$$^\cdot$2H$_2$O phase.
**Figure S3.** Laser Raman spectra of activated catalysts VPD-B-c, VPD-BO-c, VPD-M-c and VPD-OB-c showing main bands at 925, 1132 and 1185 cm\(^{-1}\) corresponding to the \((\text{VO})_2\text{P}_2\text{O}_7\) phase.