

Hydrogenation of Allyl Alcohols Catalyzed by Aqueous Palladium and Platinum Nanoparticles

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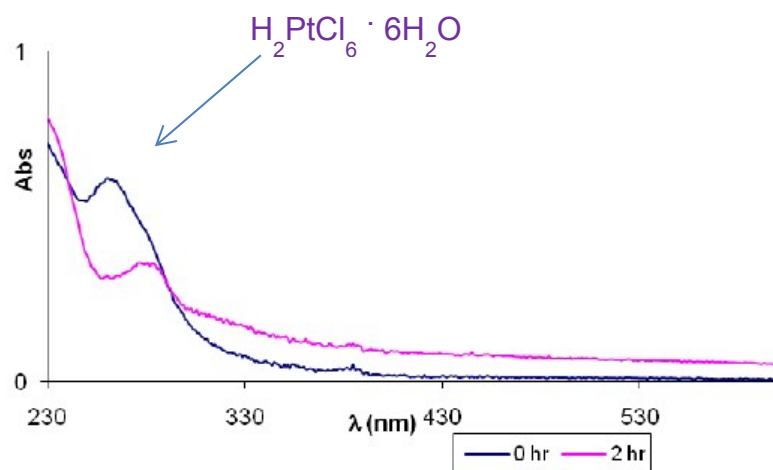


Fig. S1: UV-vis spectra of reaction mixture during Pt CaLig NPs synthesis. Blu: starting mixture; fuchsia: after 2 h at 80°C.

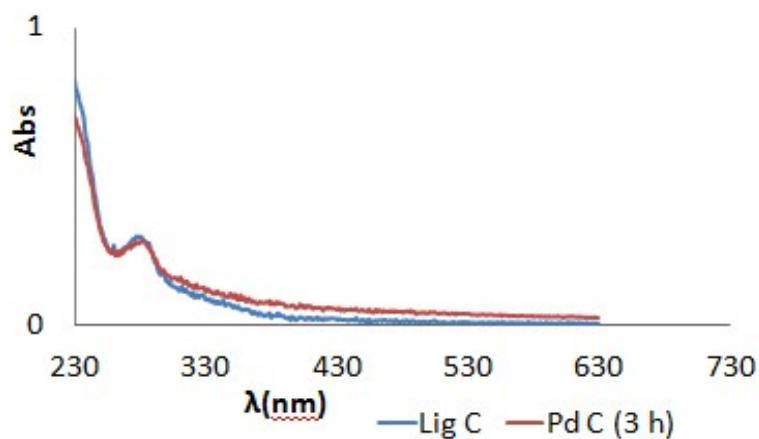


Fig. S2: UV-vis spectra of reaction mixture during Pd CaLig NPs synthesis. Blu: starting mixture; red: after 3 h at 80°C.

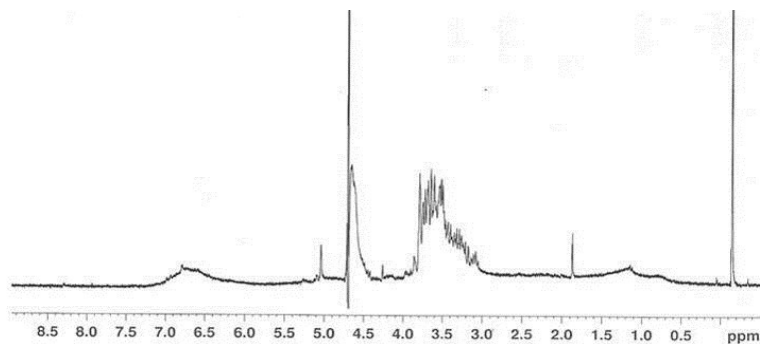


Fig. S3: ^1H NMR spectrum of NaLig in water solution.

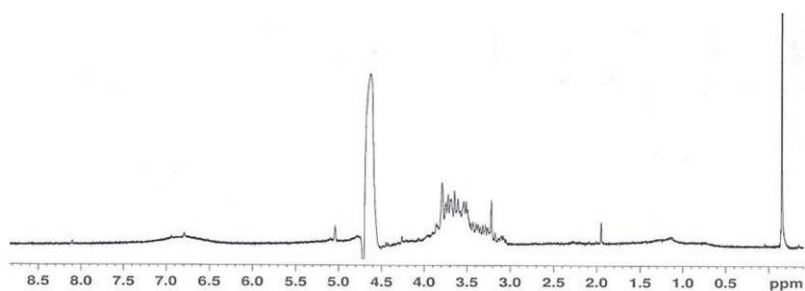


Fig. S4: ^1H NMR spectrum of Pd NaLig in water solution.

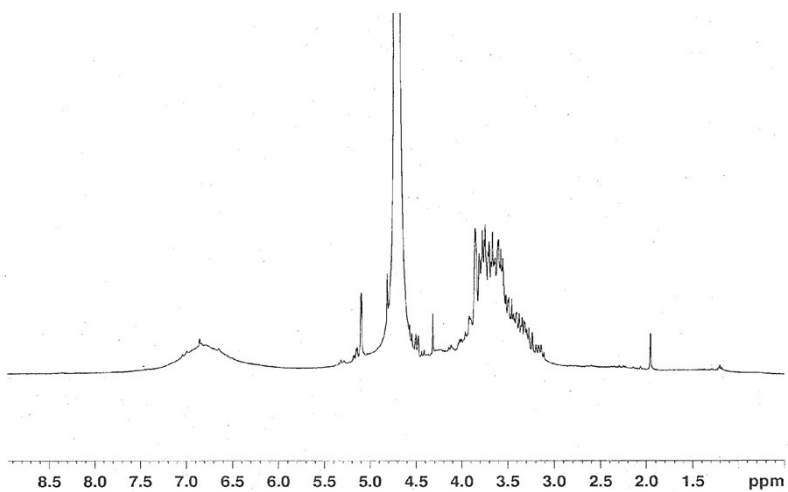


Fig. S5: ^1H NMR spectrum of CaLig in water solution.

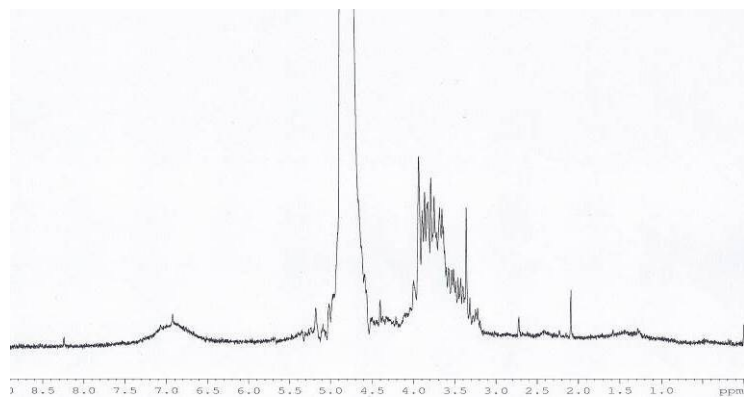


Fig. S6: ^1H NMR spectrum of PtCaLig NPs in water solution.

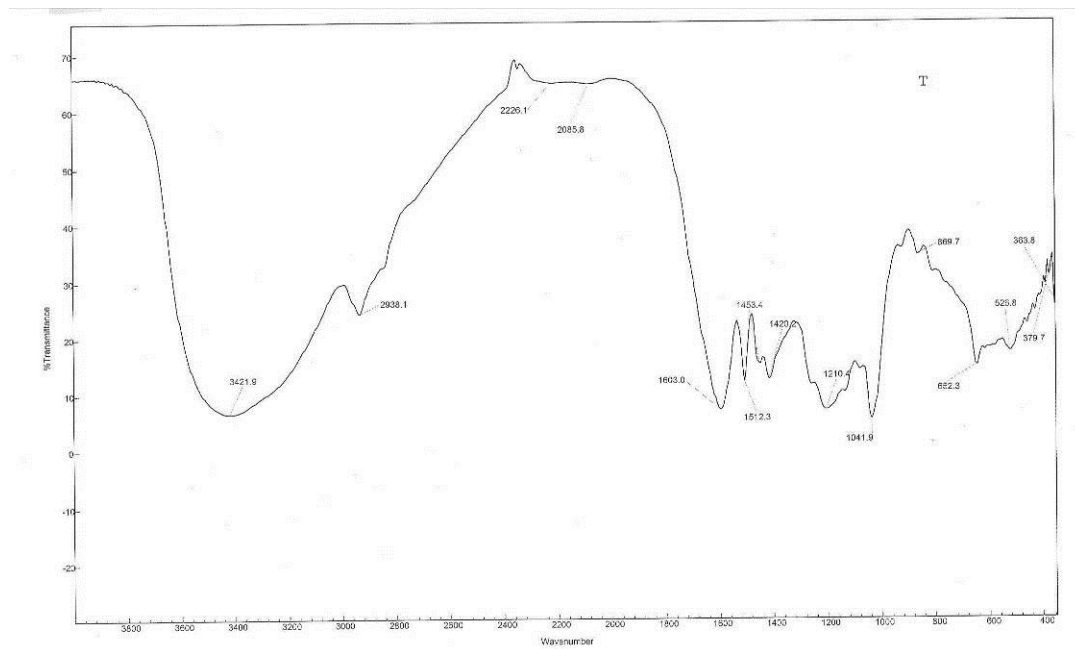


Fig. S7: FT-IR spectra of NaRO Lignin.

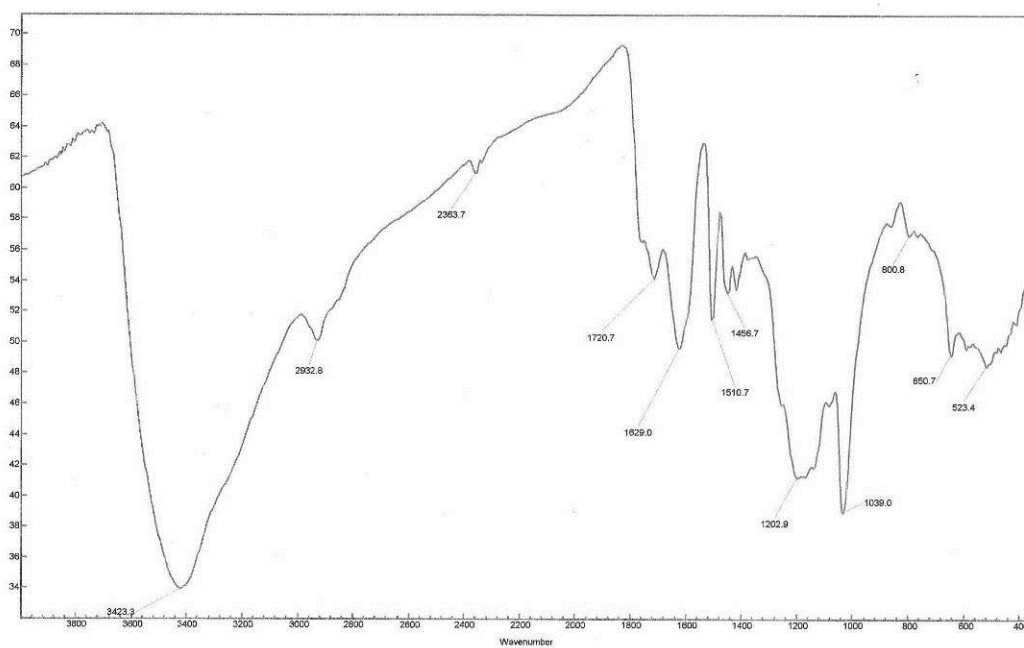


Fig. S8: FT-IR spectra of NaROLig Pd NPs.

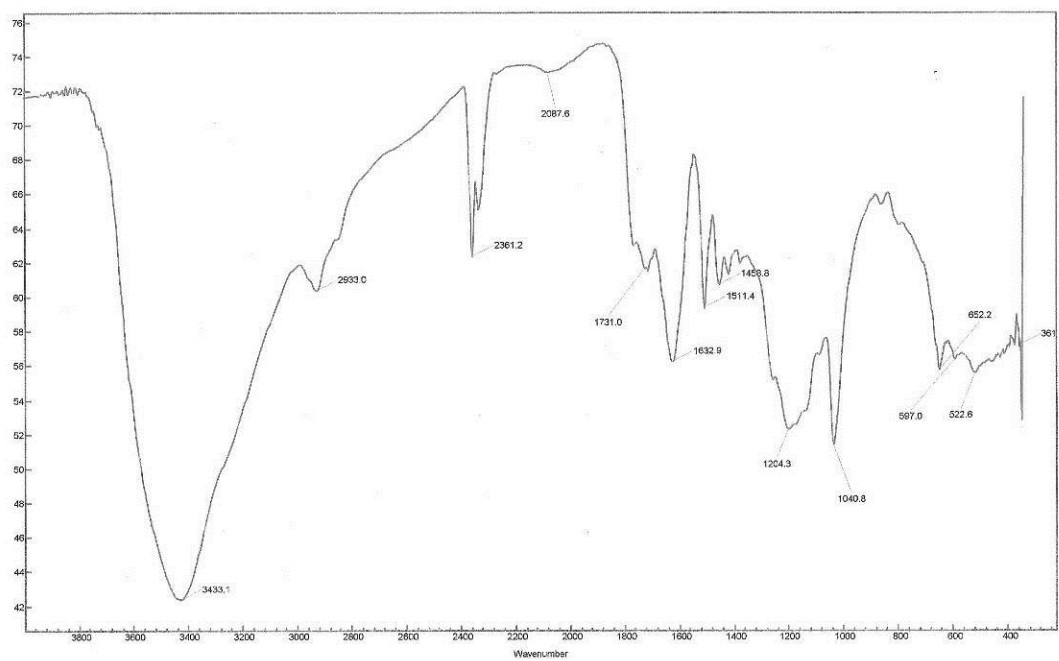


Fig. S9: FT-IR spectra of NaROLig Pt NPs.

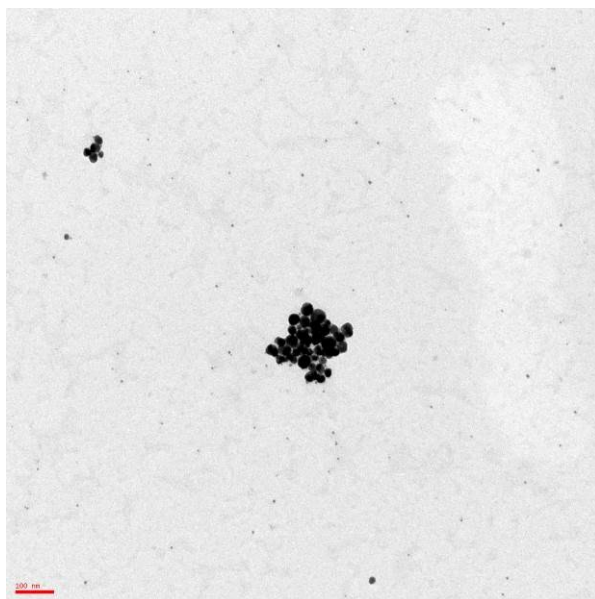


Fig. S10: TEM of AmLig Pd NPs.

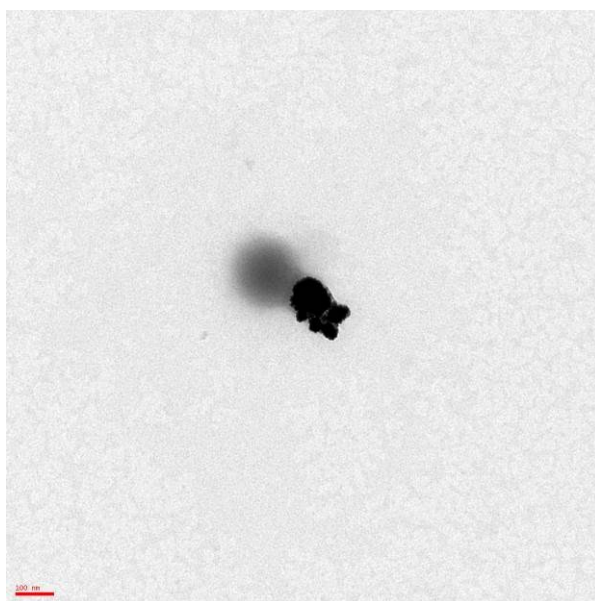


Fig. S11: TEM of AmLig Pt NPs.

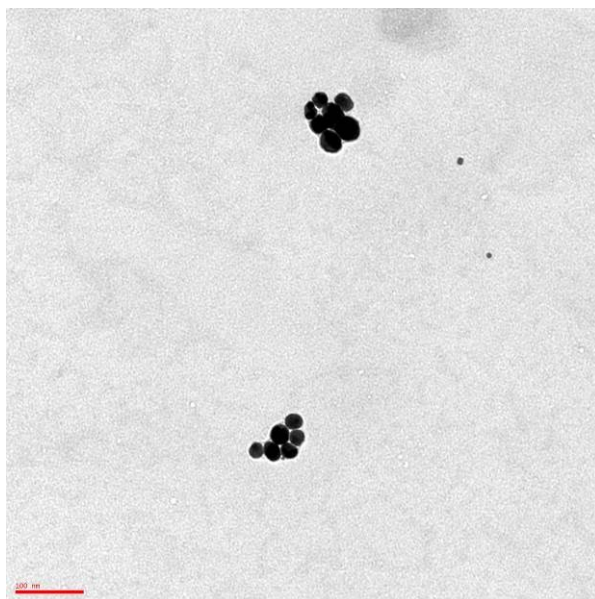


Fig. S12: TEM of CaLig Pd NPs.

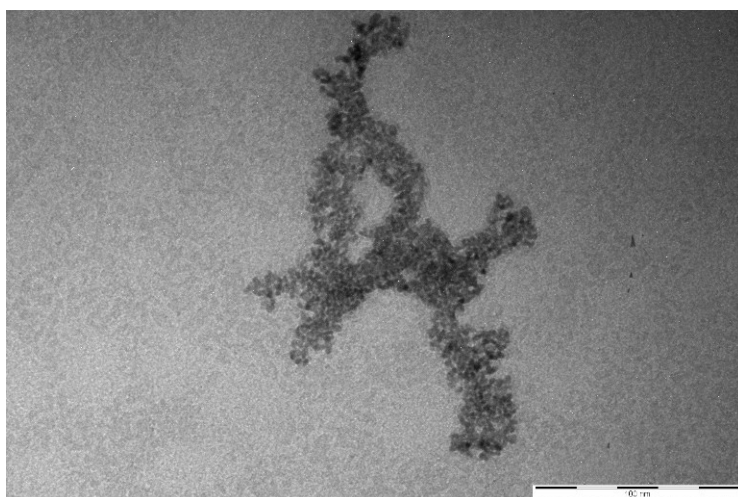


Fig. S13: TEM of CaLig Pt NPs.

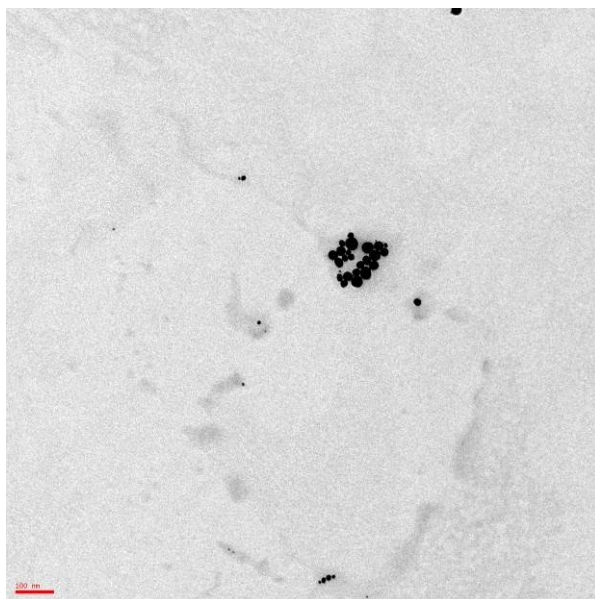


Fig. S14: TEM of NaLig Pd NPs.

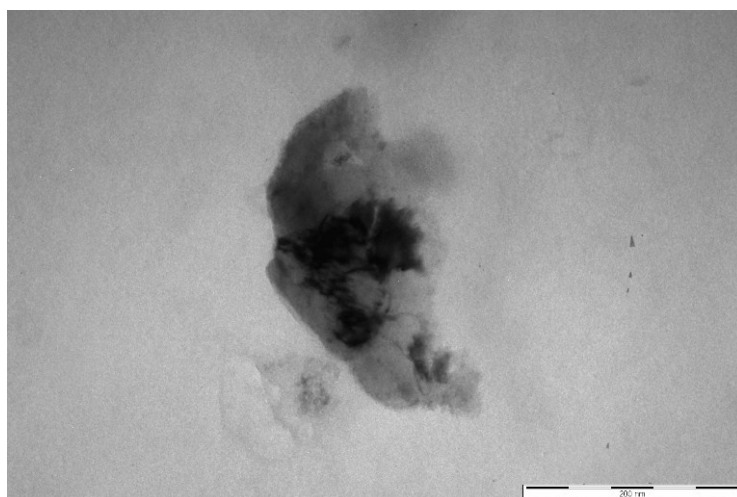


Fig. S15: TEM of NaLig Pt NPs.

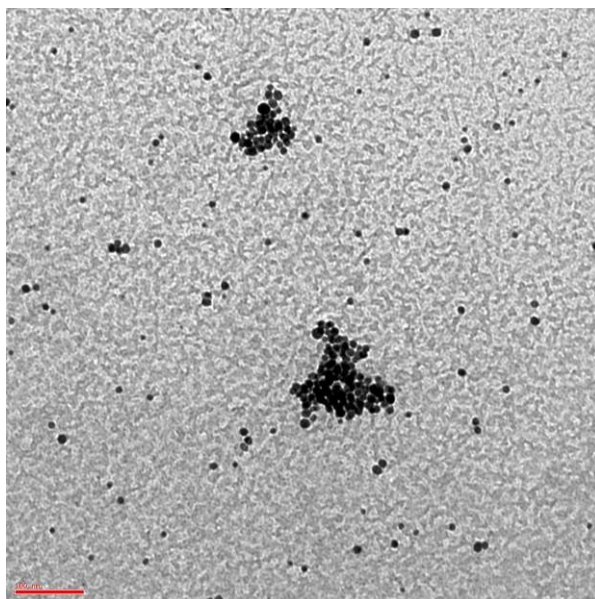


Fig. S16: TEM of NaROLig Pd NPs.

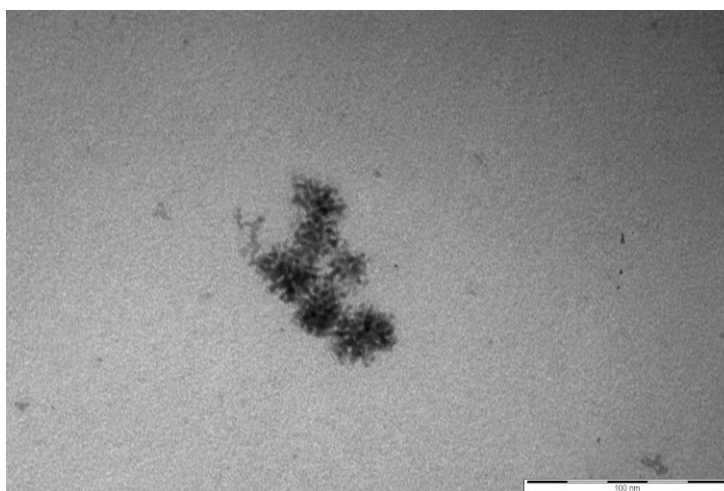


Fig. S17: TEM of NaROLig Pt NPs.

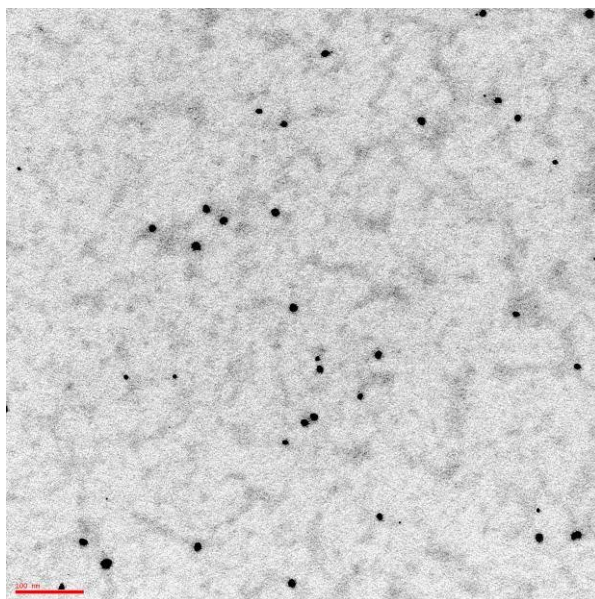


Fig. S18: TEM of KrLig Pd NPs.

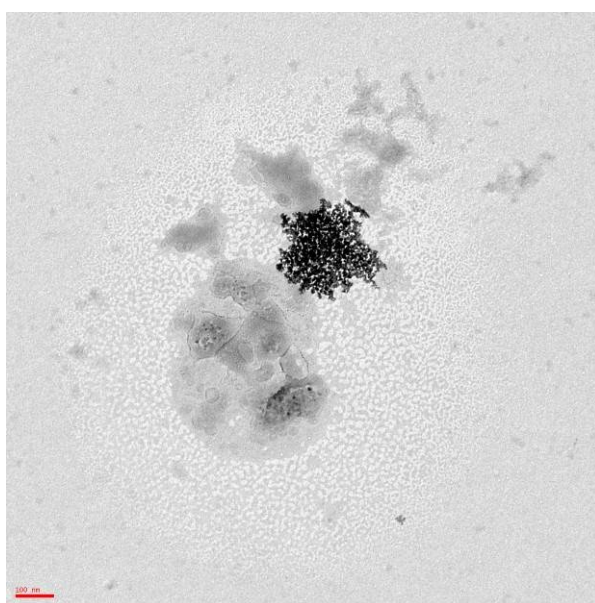


Fig. S19: TEM of KrLig Pt NPs.

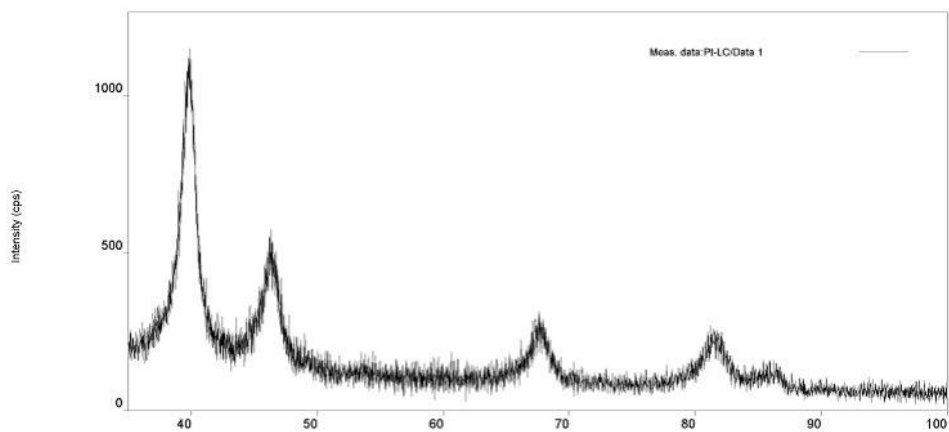


Fig. S20: XRD of Pt CaLig NPs.

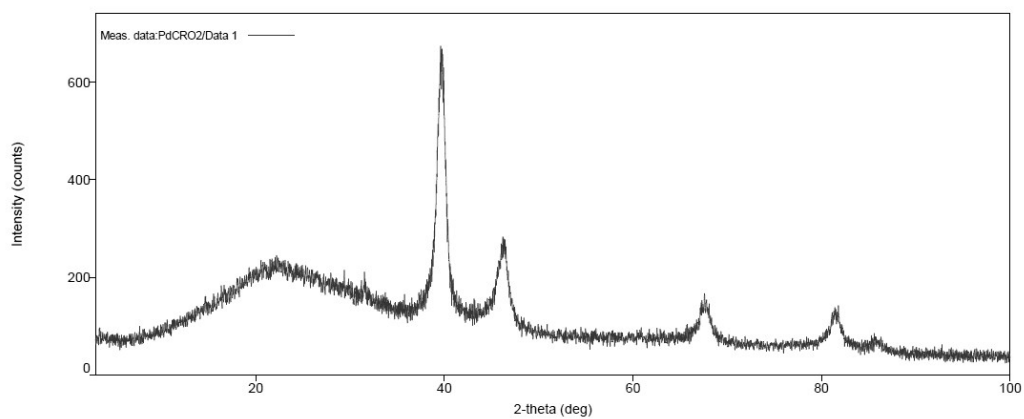


Fig. S21: XRD of Pd CaROLig NPs.

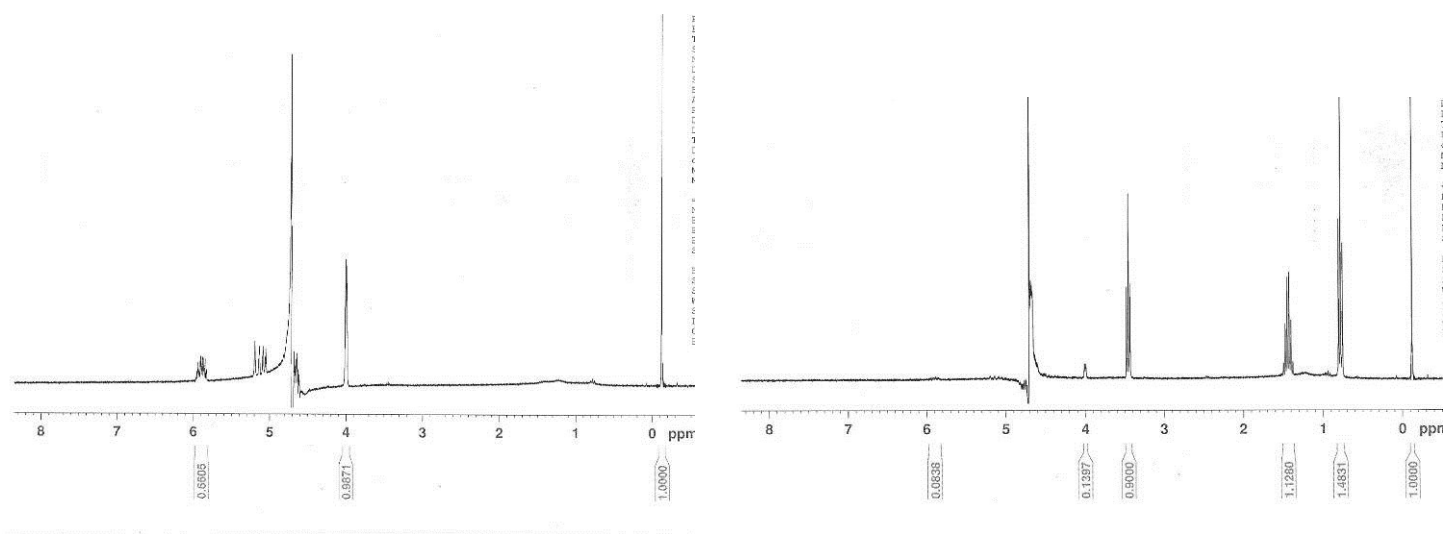


Fig. S22: ¹H NMR spectra of water mixture reaction of allyl alcohol with Pt NaLig NPs at 0h (left) and 24h (right).

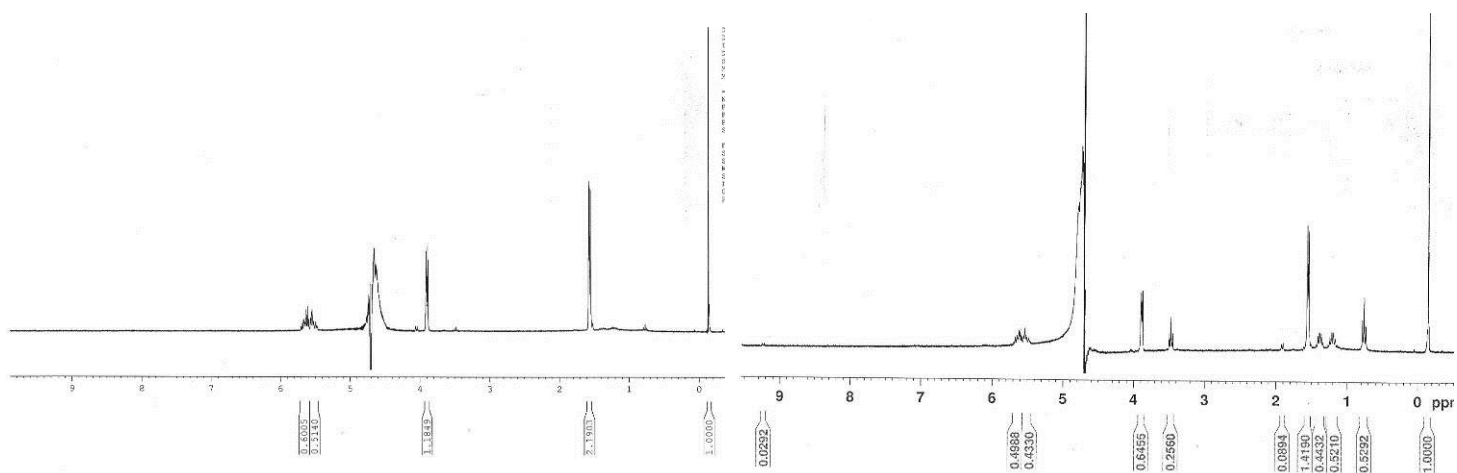


Fig. S23: ¹H NMR spectra of water mixture reaction of 2-buten-1-ol with Pt NaLig NPs at 0h (left) and 24h (right).

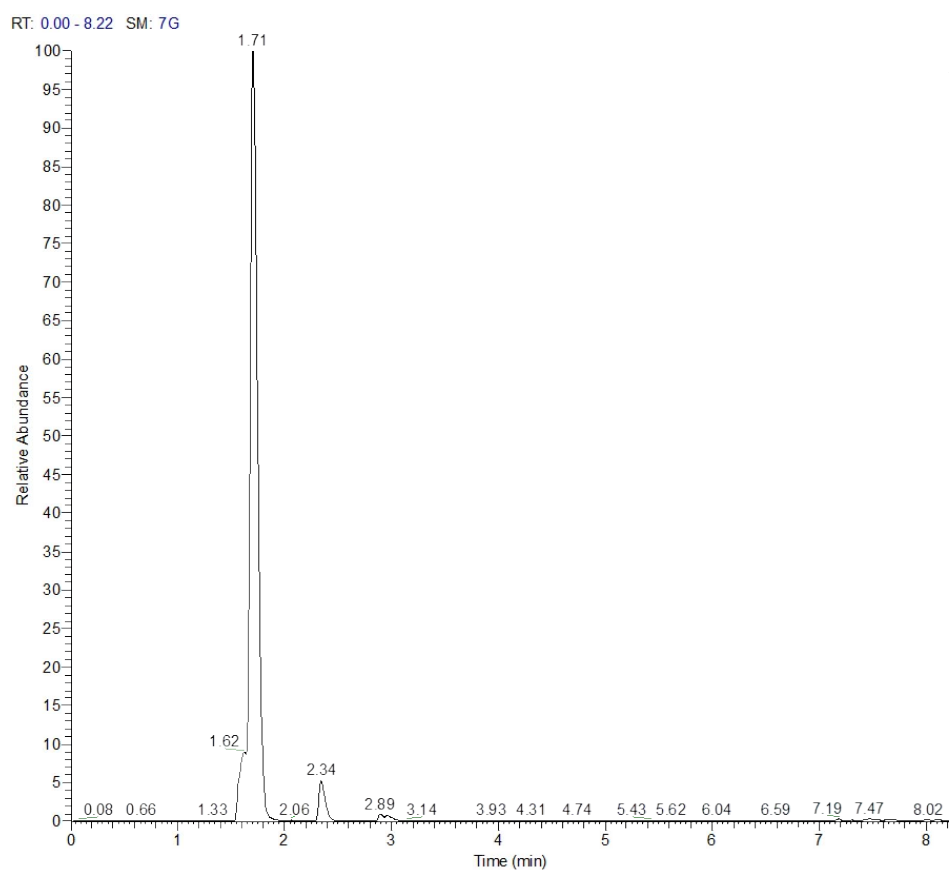


Fig. S24: Headspace GC chromatogram of 2-buten-1-ol in presence of Pt CaROLig NPs and H₂.

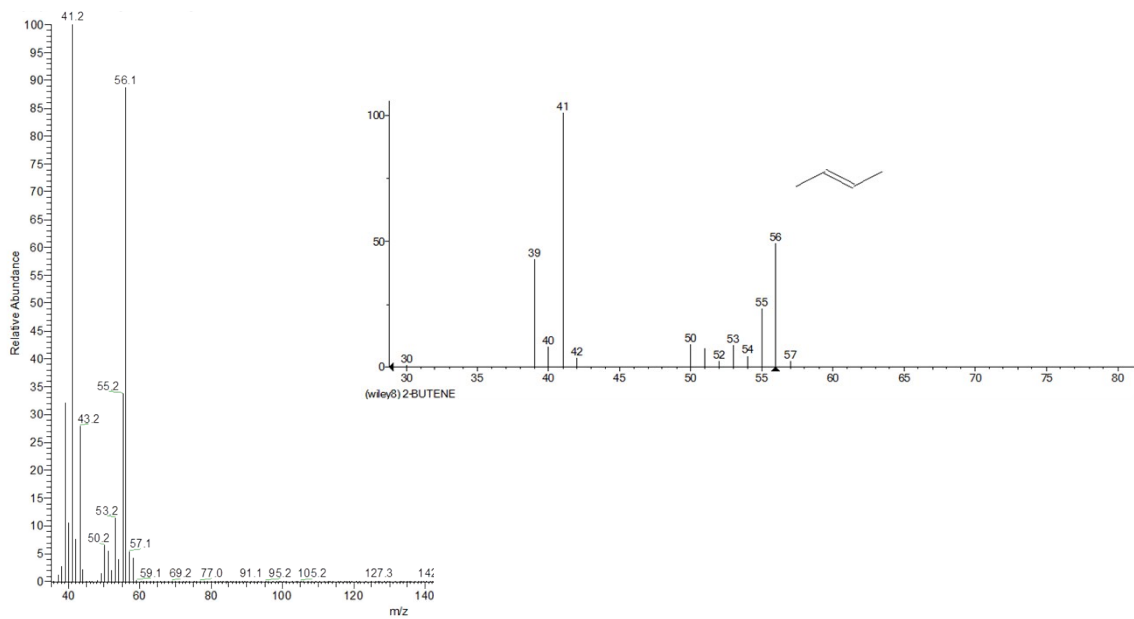
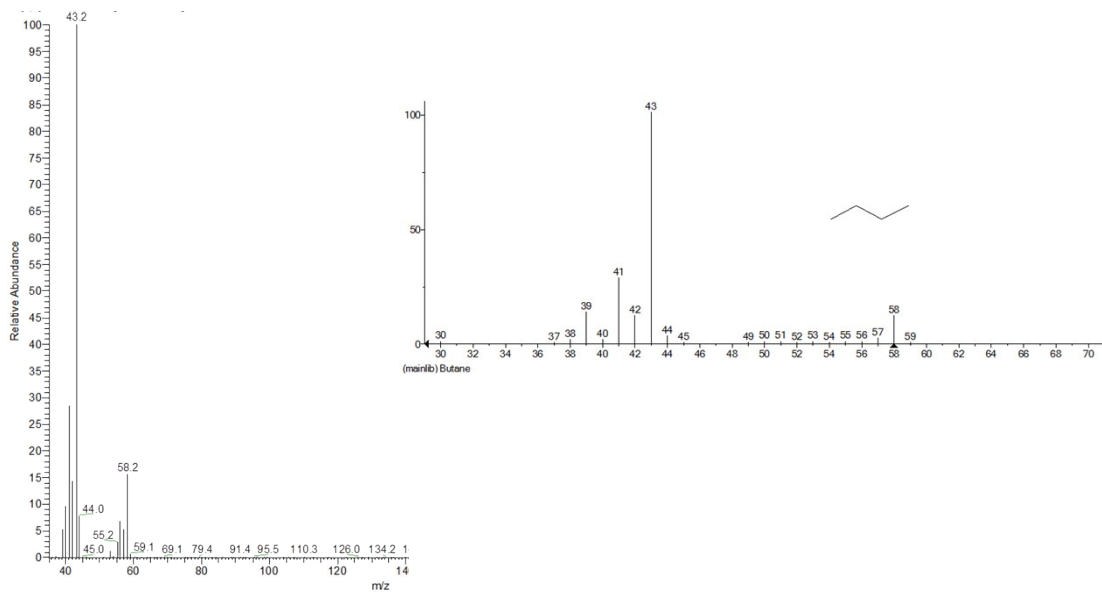


Fig. S25: MS spectra of signals in chromatogram at Fig. S24. RT = 1.62 (above) and RT = 1.71 (below) comparing with butane and 2-butene spectra of MS database.

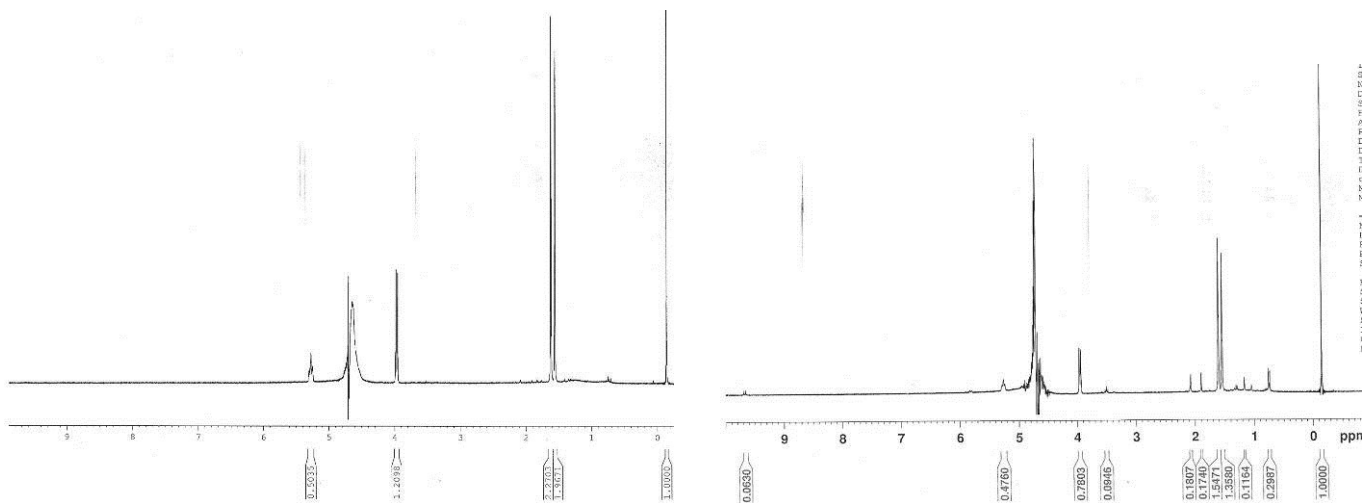


Fig. S26: ^1H NMR spectra of water mixture reaction of 3-methyl-2-buten-1-ol with Pt NaLig NPs at 0h (left) and 24h (right).

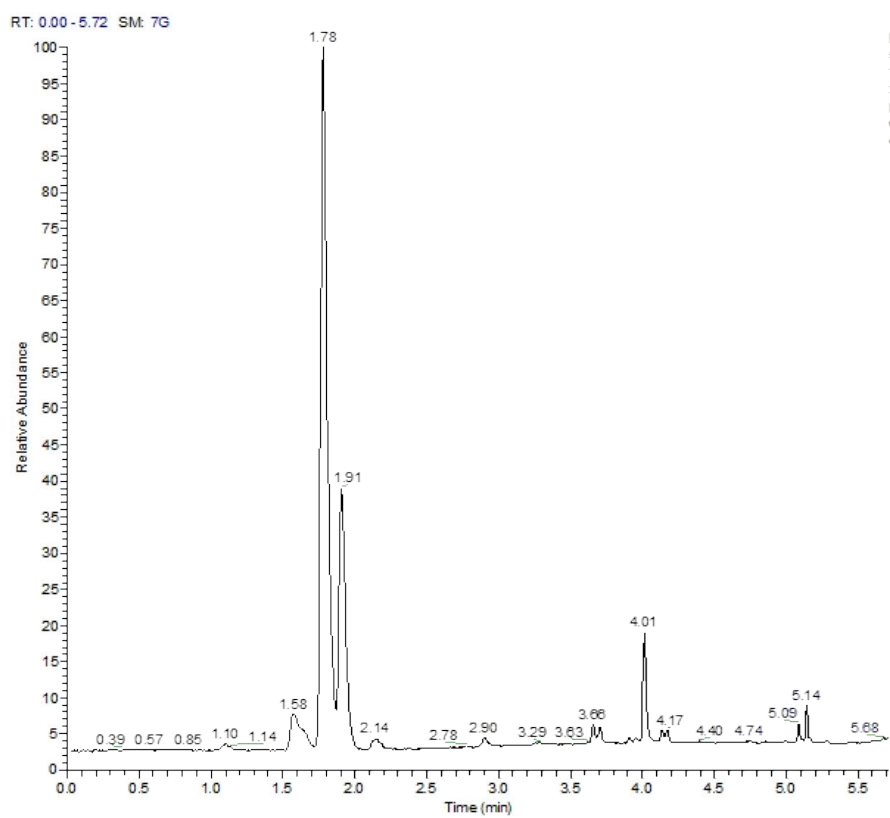


Fig. S27: Headspace GC chromatogram of 3-methyl-2-buten-1-ol in presence of Pt CaROLig NPs and H_2 .

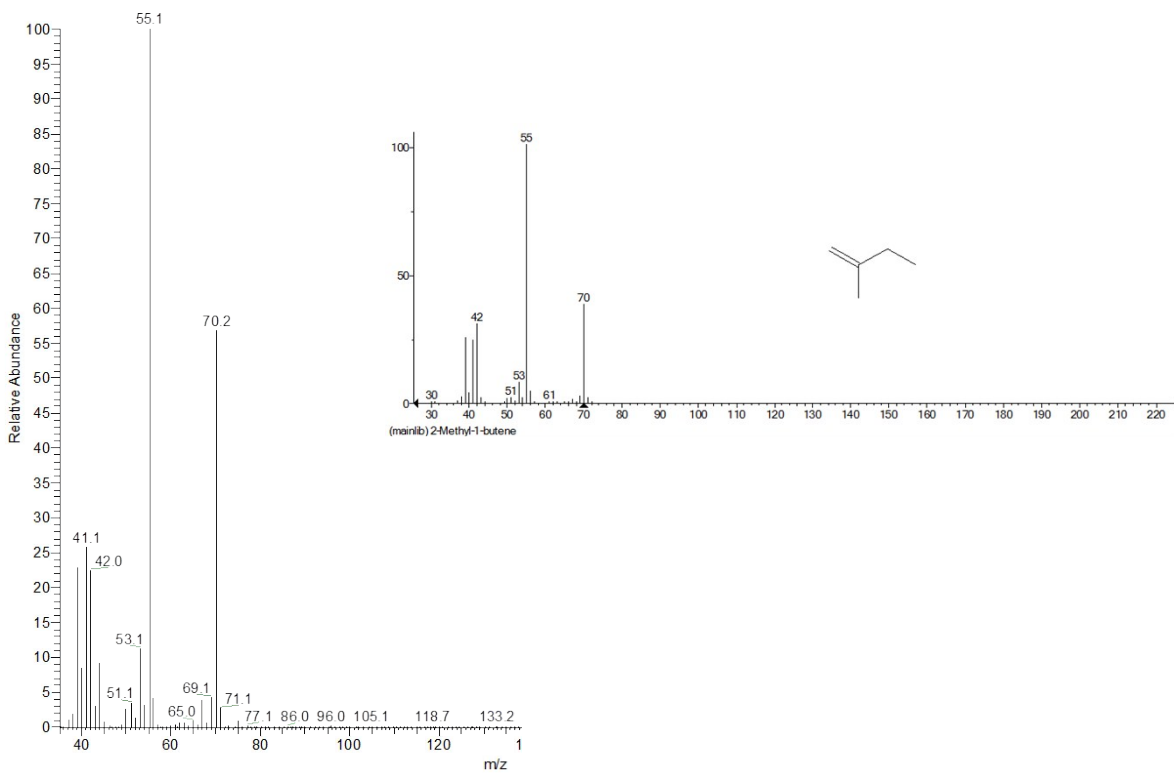
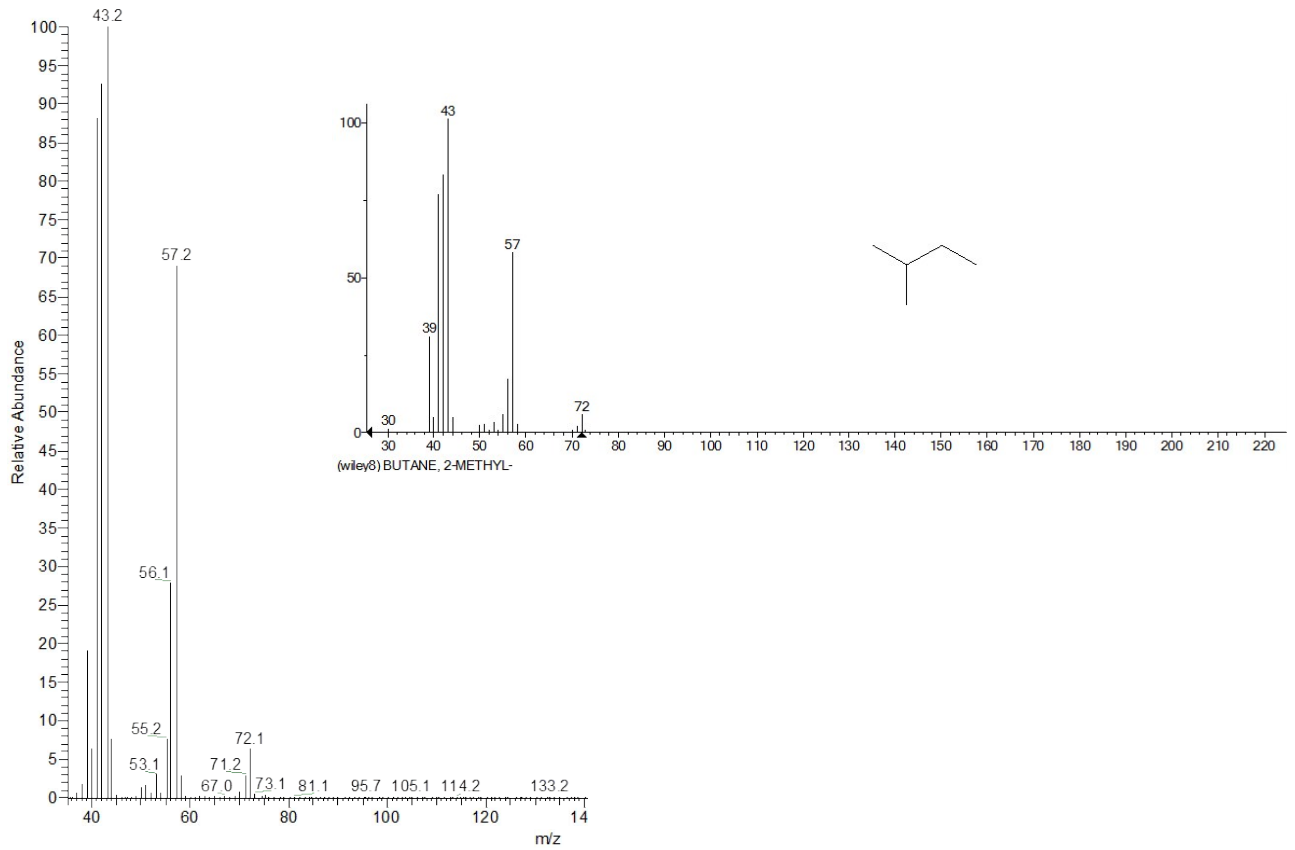


Fig. S28: MS spectra of signals in chromatogram at Fig. S27. RT = 1.71 (above) and RT = 1.91 (below) comparing with 2-methylbutane and 2-methylbutene spectra of MS database.

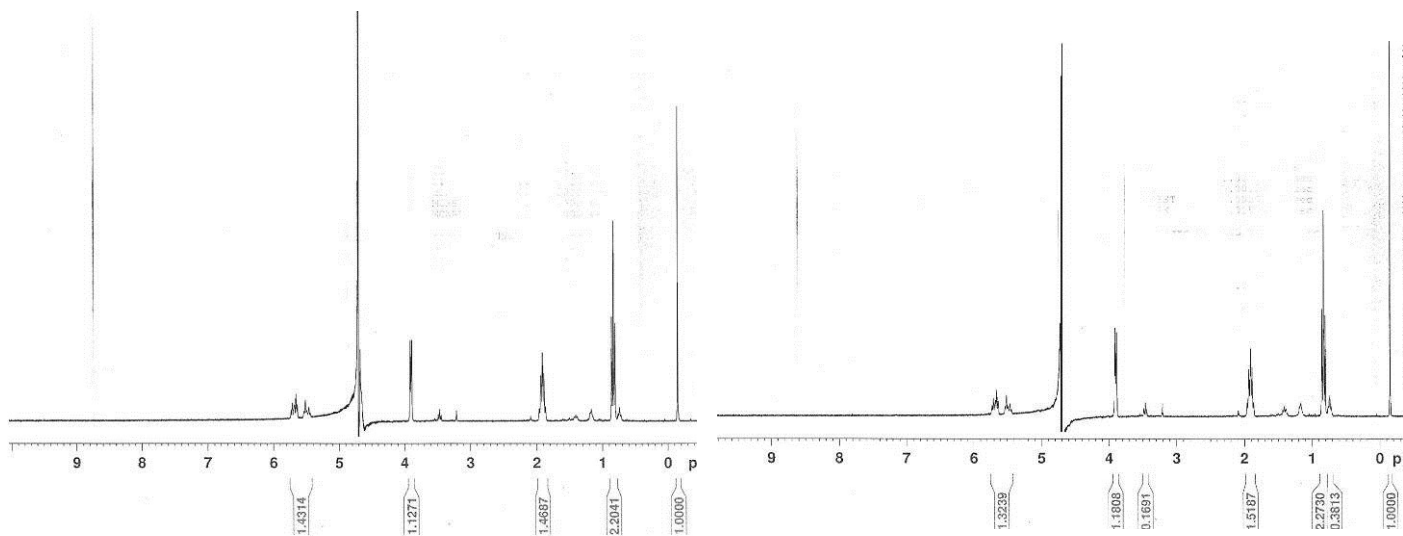


Fig. S29: ¹H NMR spectra of water mixture reaction of *trans*-2-pentanol with Pt AmLig NPs at 0h (left) and 24h (right).

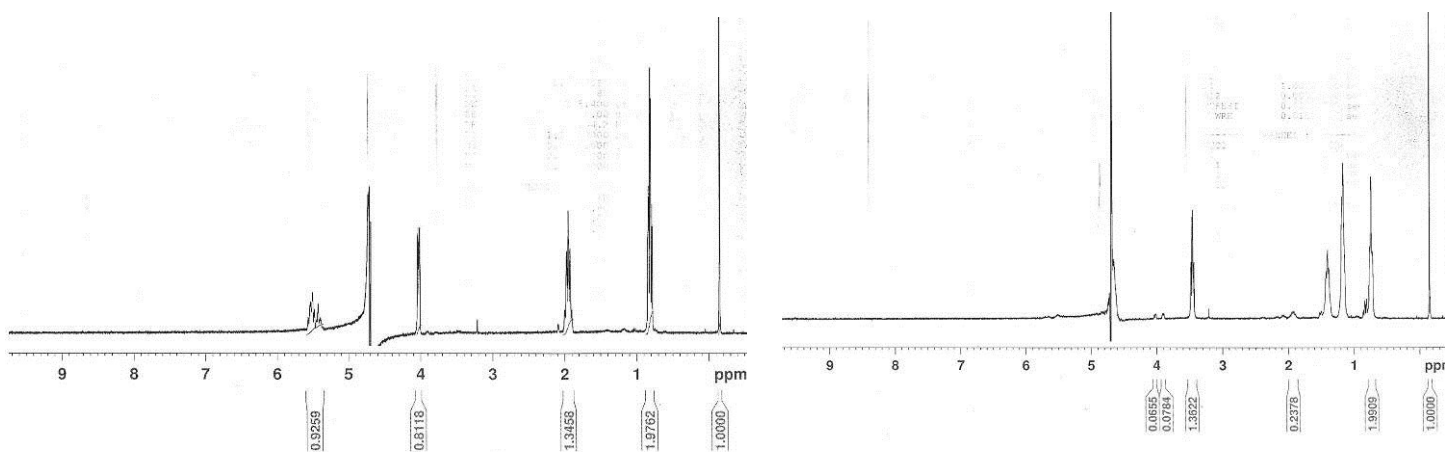


Fig. S30: ¹H NMR spectra of water mixture reaction of *cis*-2-pentanol with Pt CaLig NPs at 0h (left) and 24h (right).

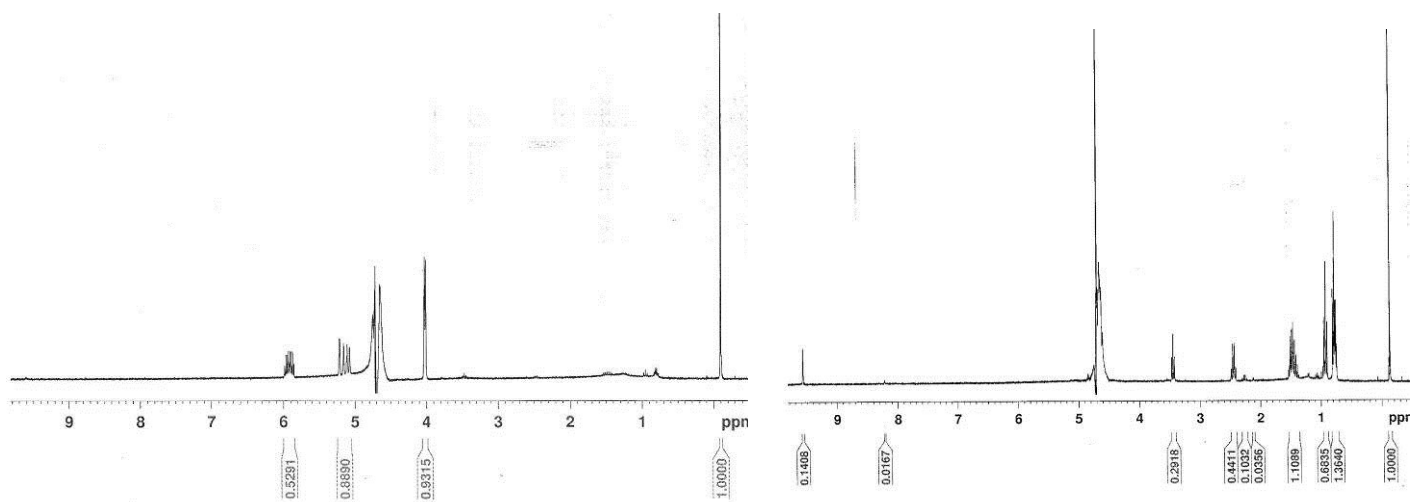


Fig. S31: ^1H NMR spectra of water mixture reaction of 2-propen-1-ol with Pd CaLig NPs at 0h (left) and 24h (right).

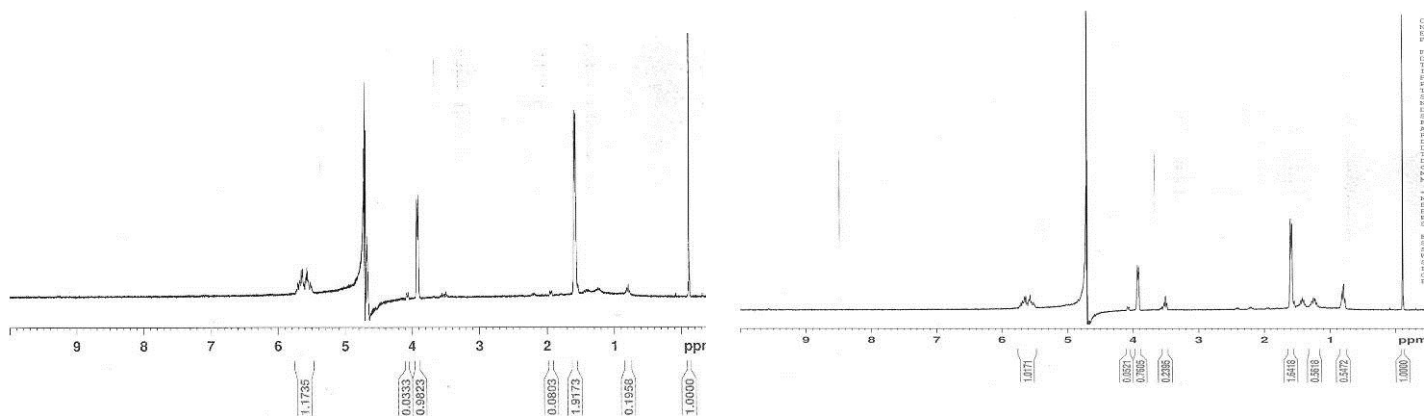


Fig. S32: ^1H NMR spectra of water mixture reaction of 2-buten-1-ol with Pd NaLig NPs at 0h (left) and 24h (right).

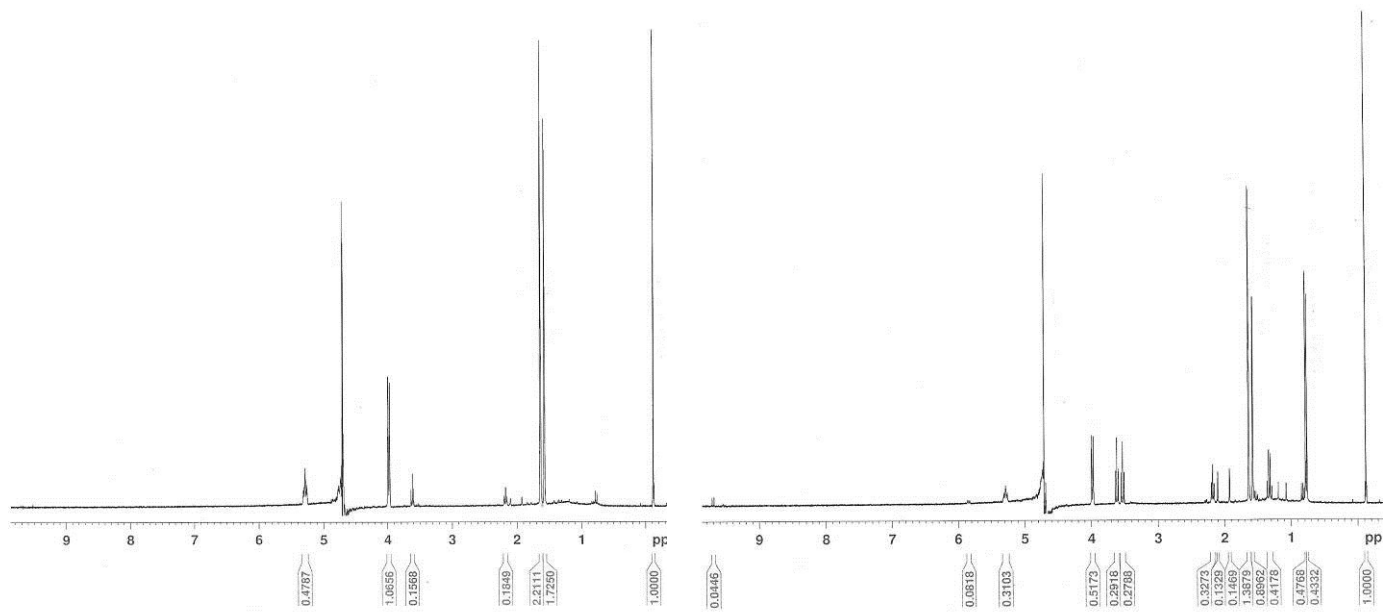


Fig. S33: ¹H NMR spectra of water mixture reaction of 3-methyl-2-buten-1-ol with Pd NaLig NPs at 0h (left) and 24h (right).

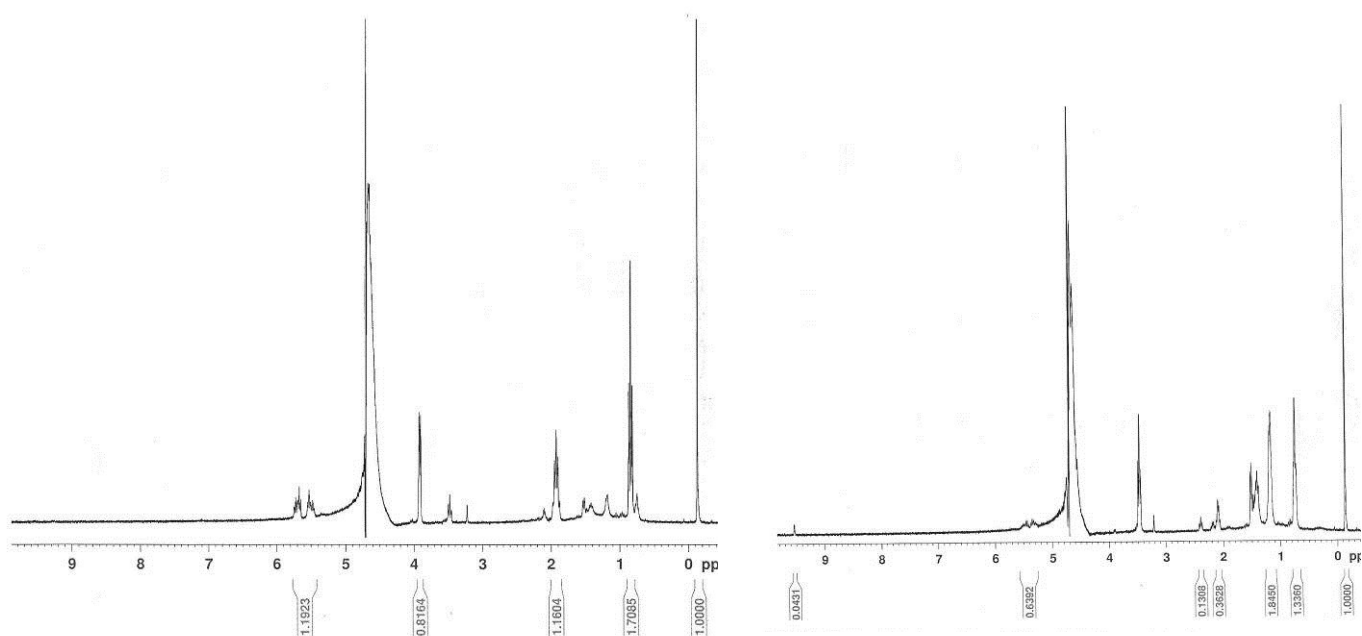


Fig. S34: ¹H NMR spectra of water mixture reaction of *trans*-2-pentenol with Pd NaLig NPs at 0h (left) and 24h (right).

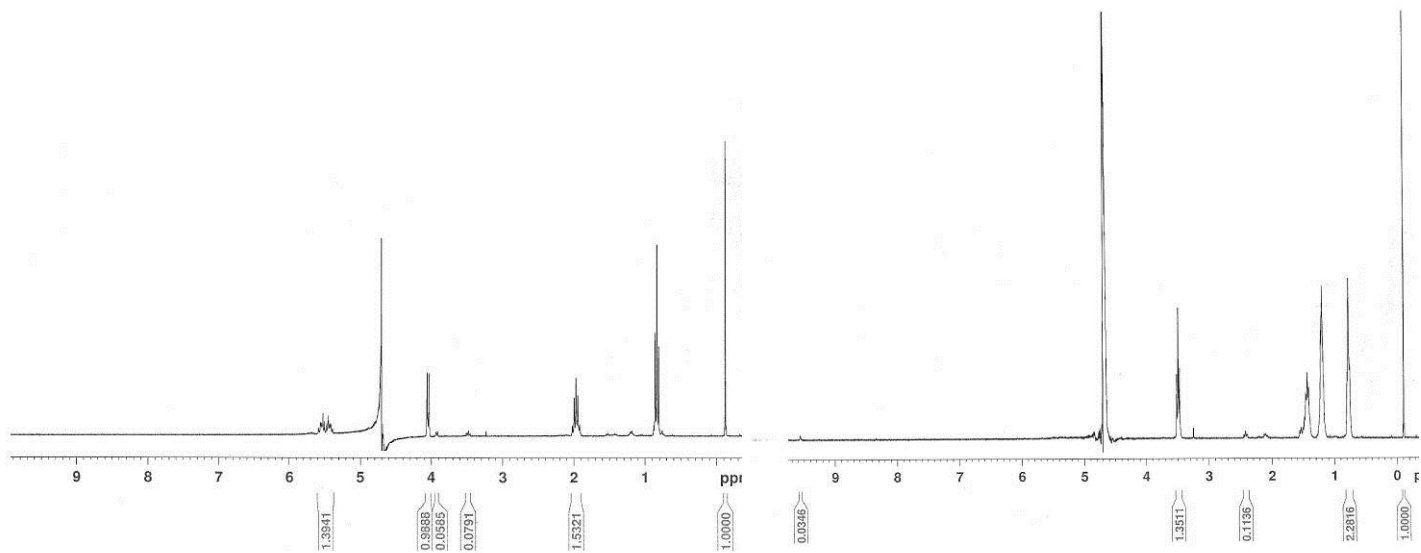


Fig. S35: ^1H NMR spectra of water mixture reaction of *cis*-2-pentanol with Pd NaROLig NPs at 0h (left) and 24h (right).