Epoxidation of karanja (*Millettia pinnata*) oil methyl esters in the presence of hydrogen peroxide over a simple niobium-containing catalyst

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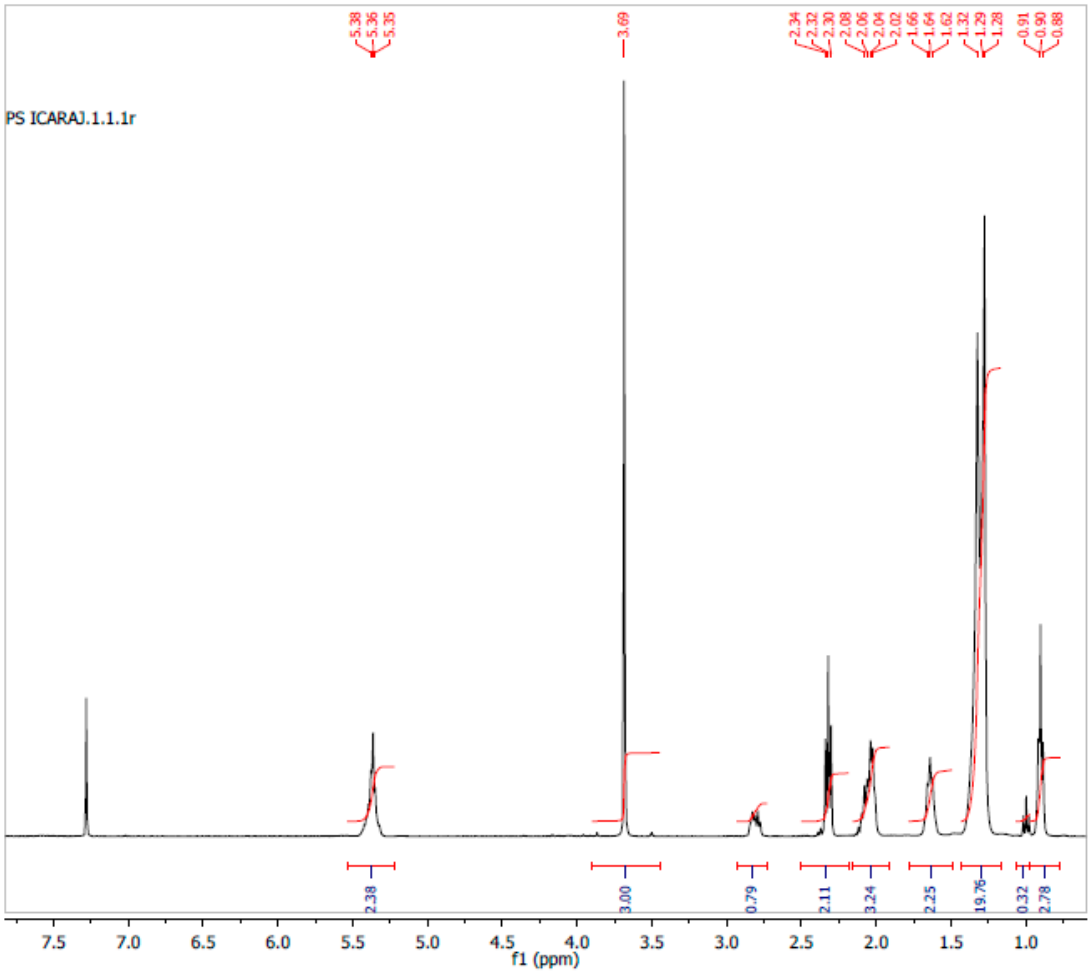


Figure S1. ^{1}H-NMR spectrum of karanja FAME mixture in $CDCl_3$.

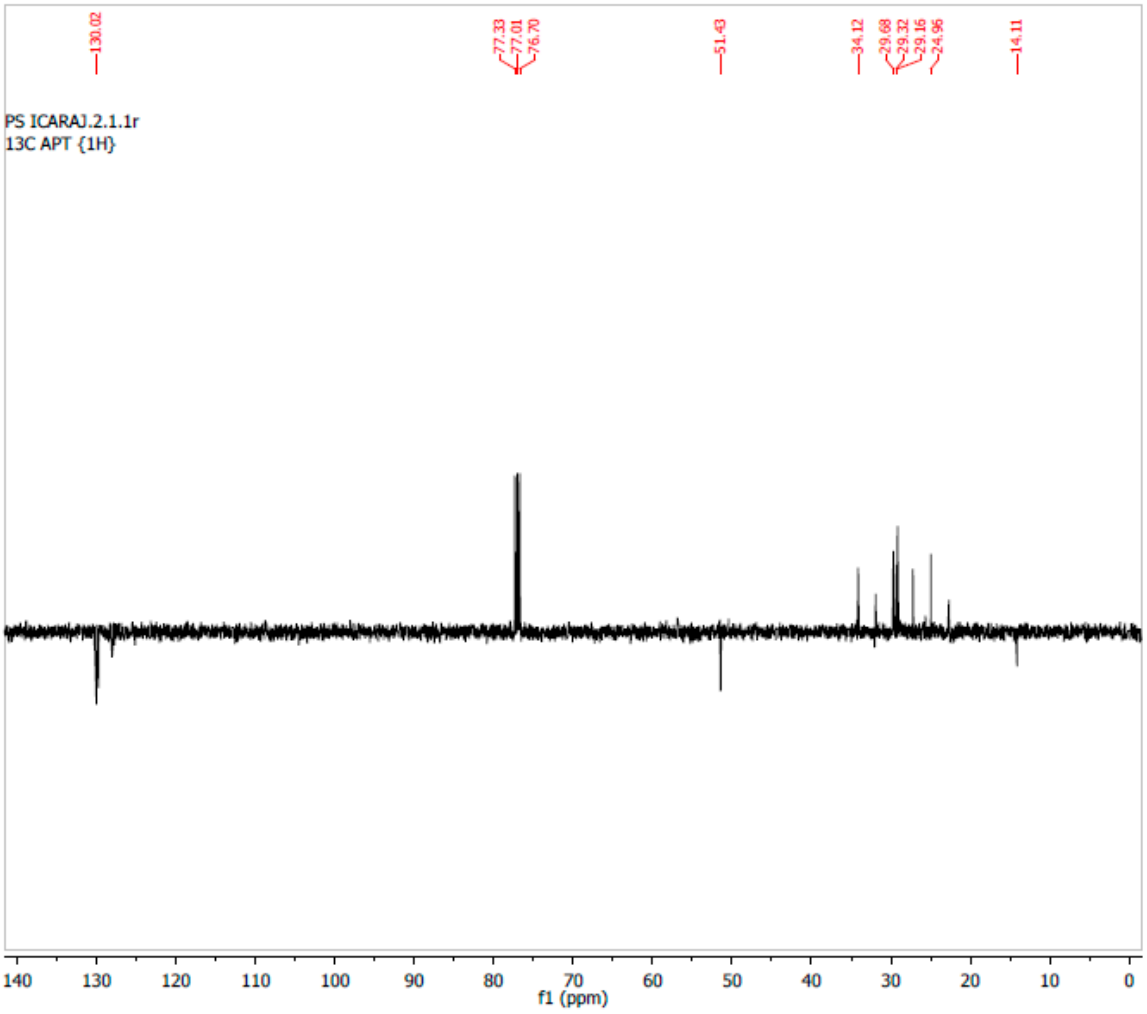


Figure S2. ^{13}C-{^{1}H}-NMR spectrum of karanja FAME mixture in $CDCl_3$.

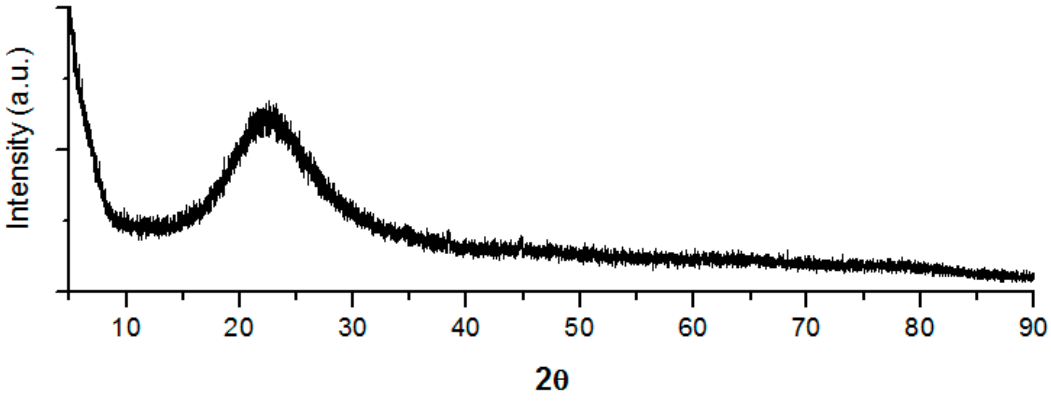


Figure S3. X-ray diffraction patterns of NbO_x-SiO_2 catalyst

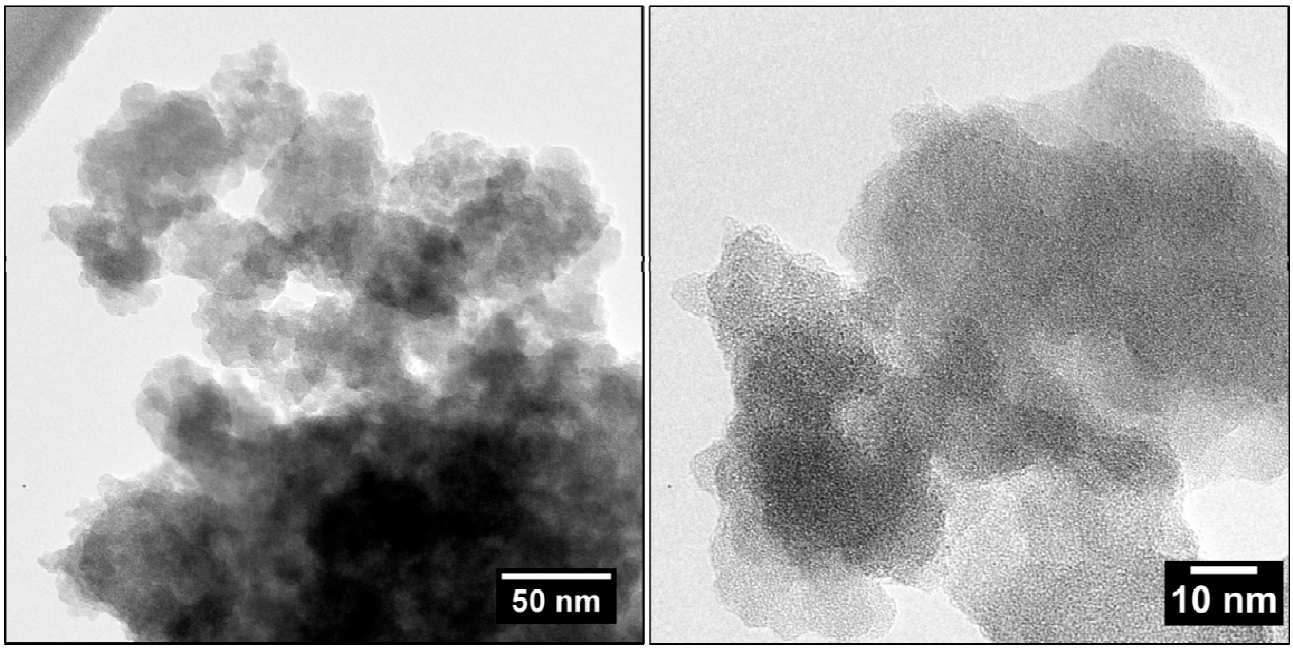


Figure S4. Representative TEM micrographs of NbO_x-SiO_2.

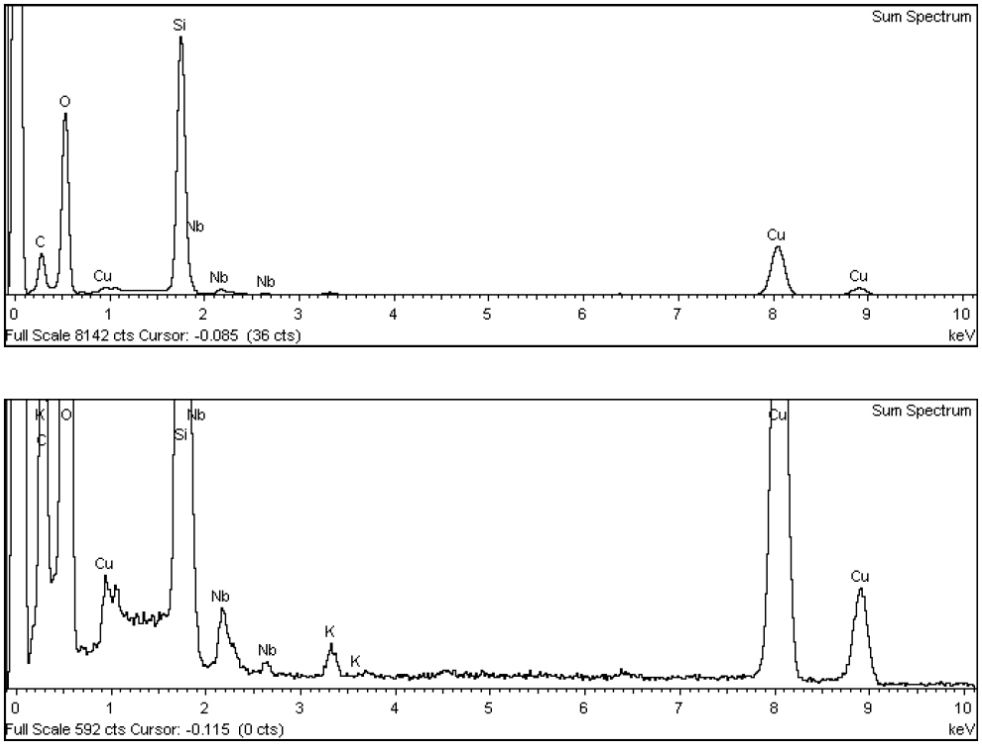
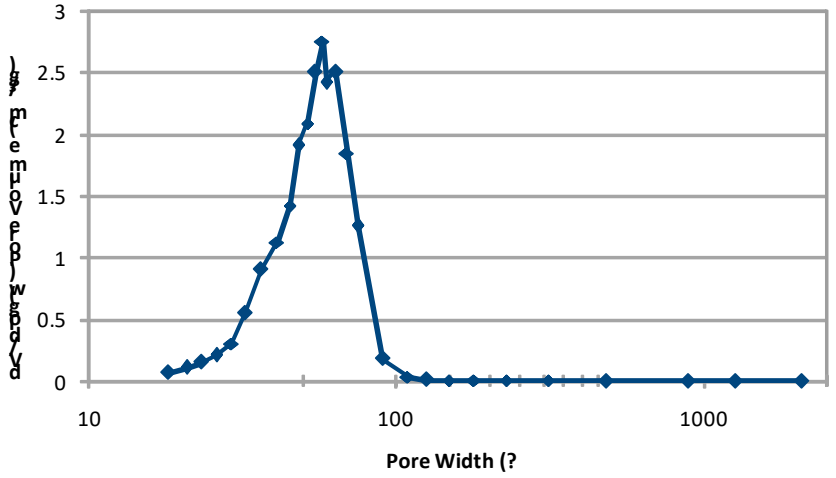
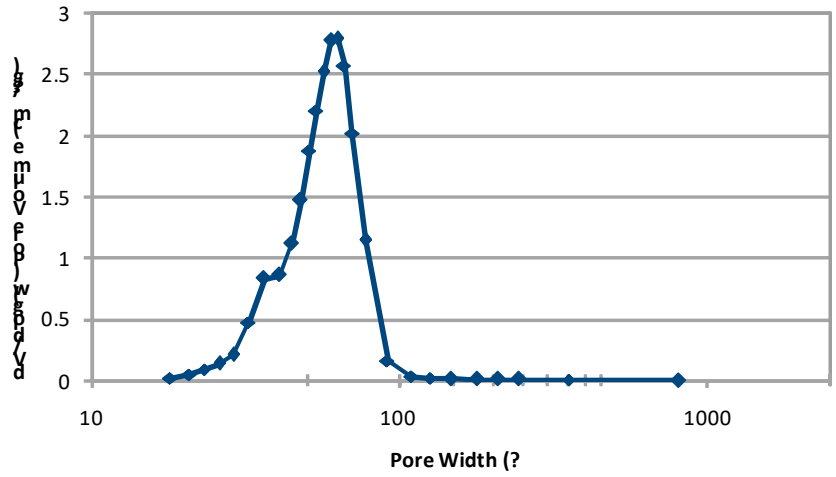


Figure S5. EDS spectrum for NbO_x-SiO_2.



a)



b)

Figure S6. BJH pore distribution for SiO_2 (a) and NbO_x-SiO_2 (b).

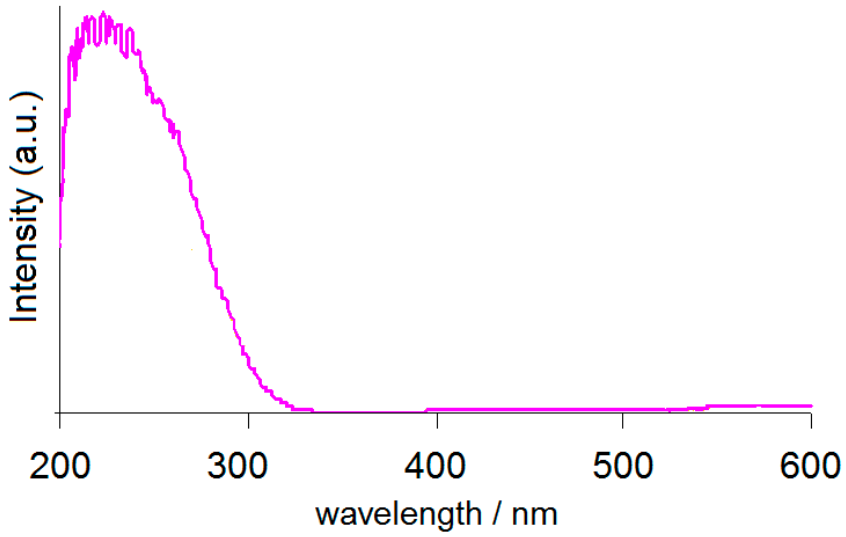


Figure S7. DRS UV-vis pattern of a reference Nb-MCM-41 catalyst (Nb content 1.0 wt.%) prepared via liquid-phase deposition of *bis*(cyclopentadienyl)niobium(IV) dichloride over pure-silica MCM-41 under dry air.

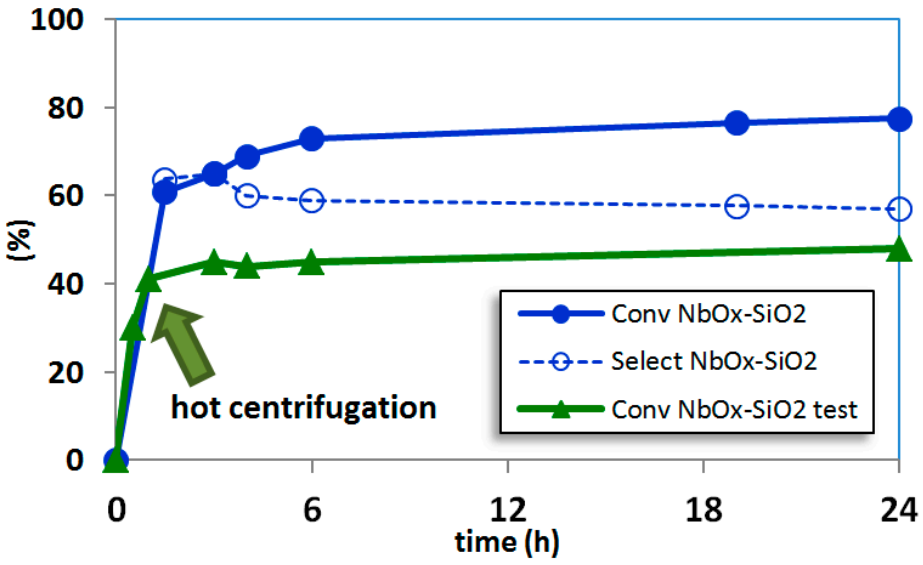


Figure S8. Conversion of C=C double bonds of karanja FAME mixture (solid lines) and selectivity to monoepoxides (dashed line) *vs*. time over NbO_x-SiO_2. During the heterogeneity test (green line), after 1 h, the catalyst was removed from the reaction mixture by centrifugation and the resulting solution was checked for further reaction. Reaction conditions: glass batch reactor, 100 mg catalyst, 1 mmol C=C substrate, 4 mmol aq. H_2O_2, 90°C, 300 rpm, 5 mL CH_3CN.