materials

MDPI

Supplementary

R-Silsesquioxane-Based Network Polymers by Fluoride Catalyzed Synthesis: An Investigation of Cross-linker Structure and its Influence on Porosity

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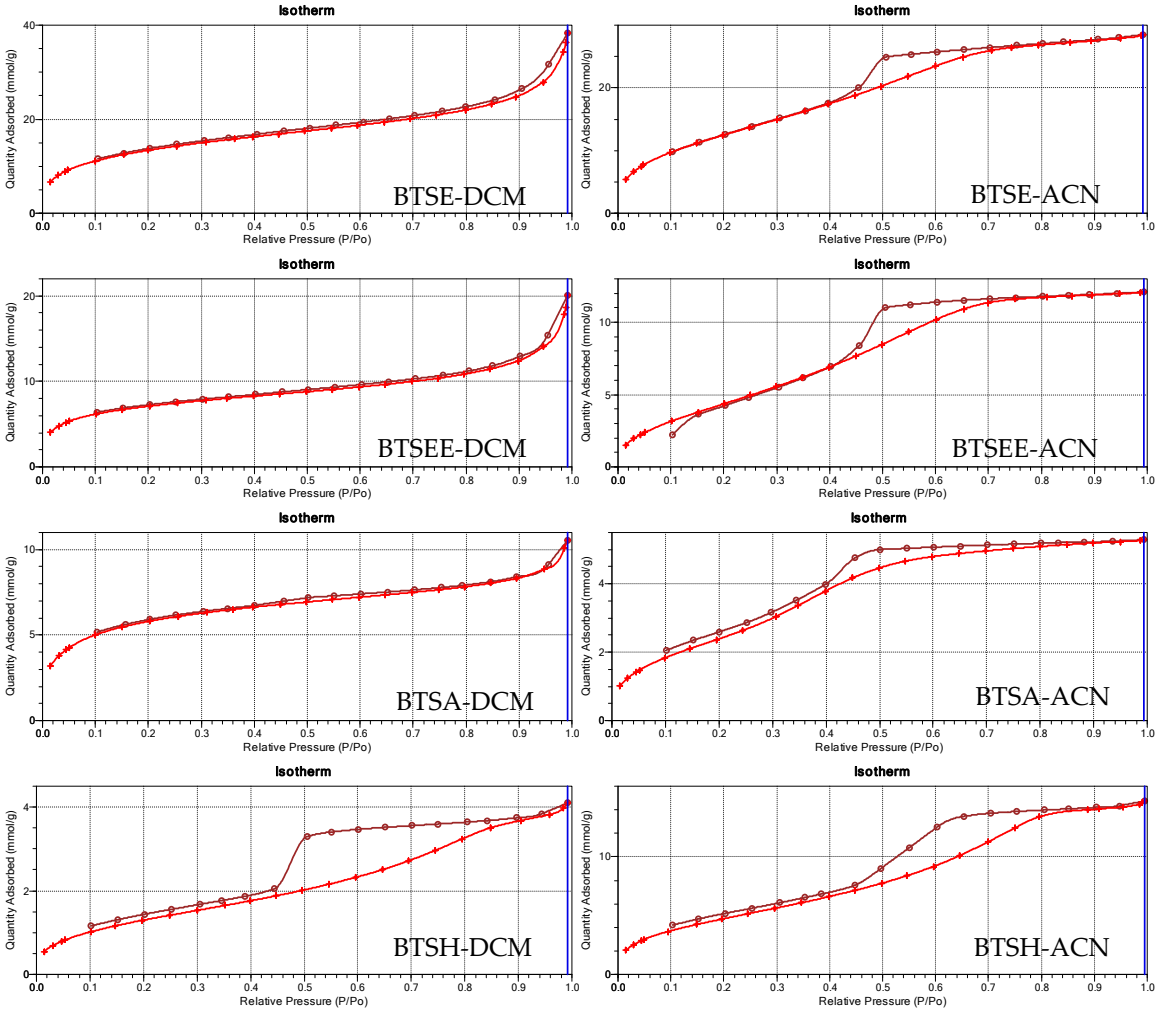
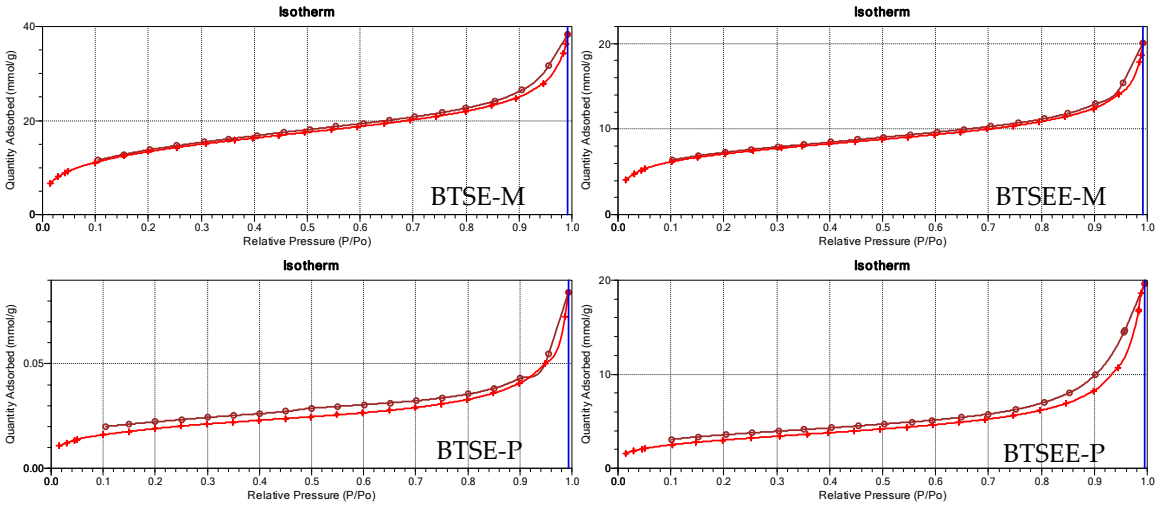
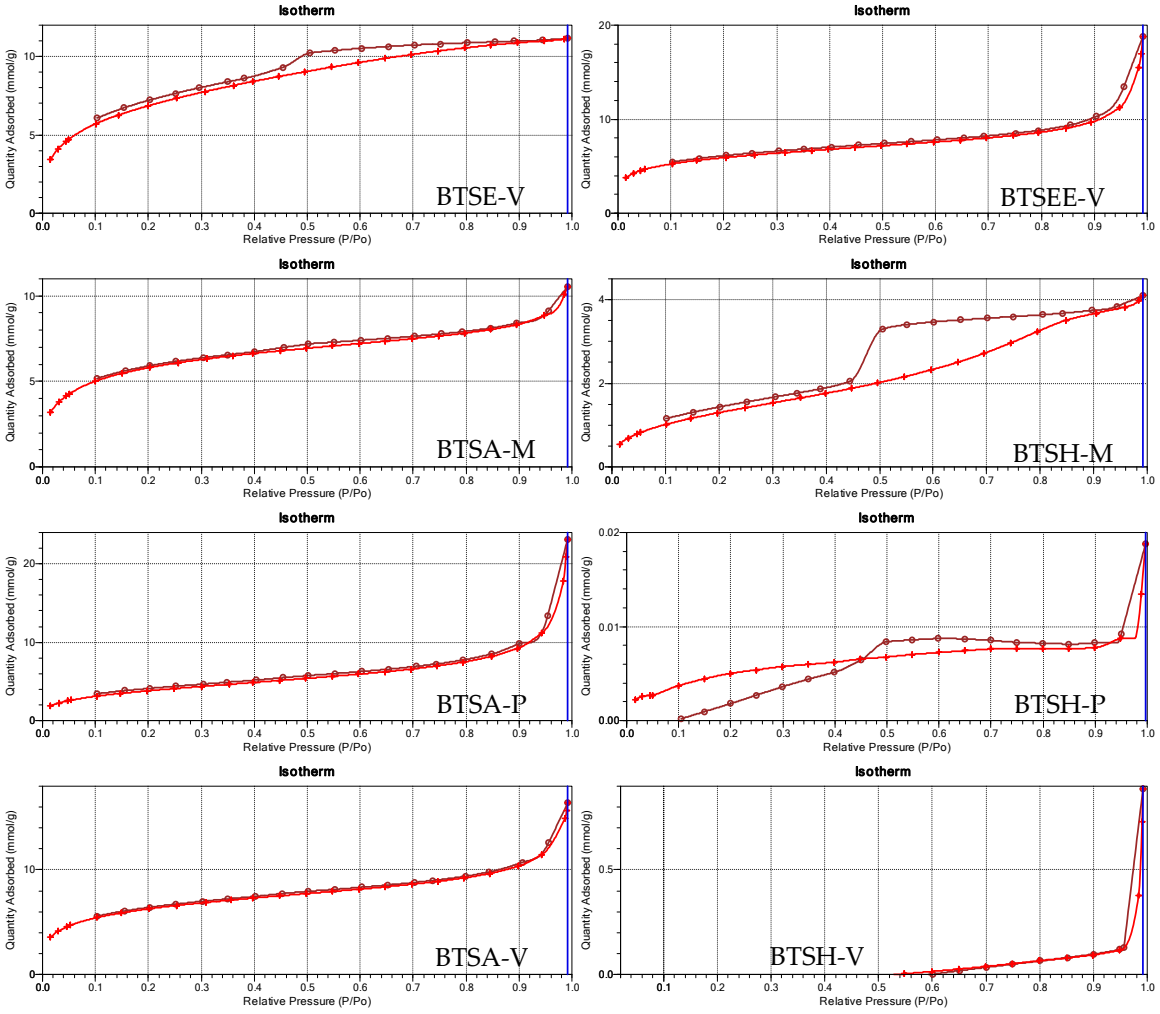

Isotherm
Quantity Adsorbed (mmol/g)
Relative Pressure (P/Po)
BTSE-DCM
BTSE-ACN
BTSEE-DCM
BTSEE-ACN
BTSA-DCM
BTSA-ACN
BTSH-DCM
BTSH-ACN

(a)


Isotherm
Quantity Adsorbed (mmol/g)
Relative Pressure (P/Po)
BTSE-M
BTSEE-M
BTSE-P
BTSEE-P



(b)

Figure S1. (**a**) Isotherm graphs from reactions with different cross-linkers in dichloromethane (DCM) and acetonitrile (ACN), Plus (light red) = adsorption, circle (dark red = desorption). (**b**) Isotherm graphs of materials from reactions with different corner-silanes and cross-linkers, P = phenyl, V = vinyl, M = methyl from DCM, Plus (light red) = adsorption, circle (dark red = desorption).

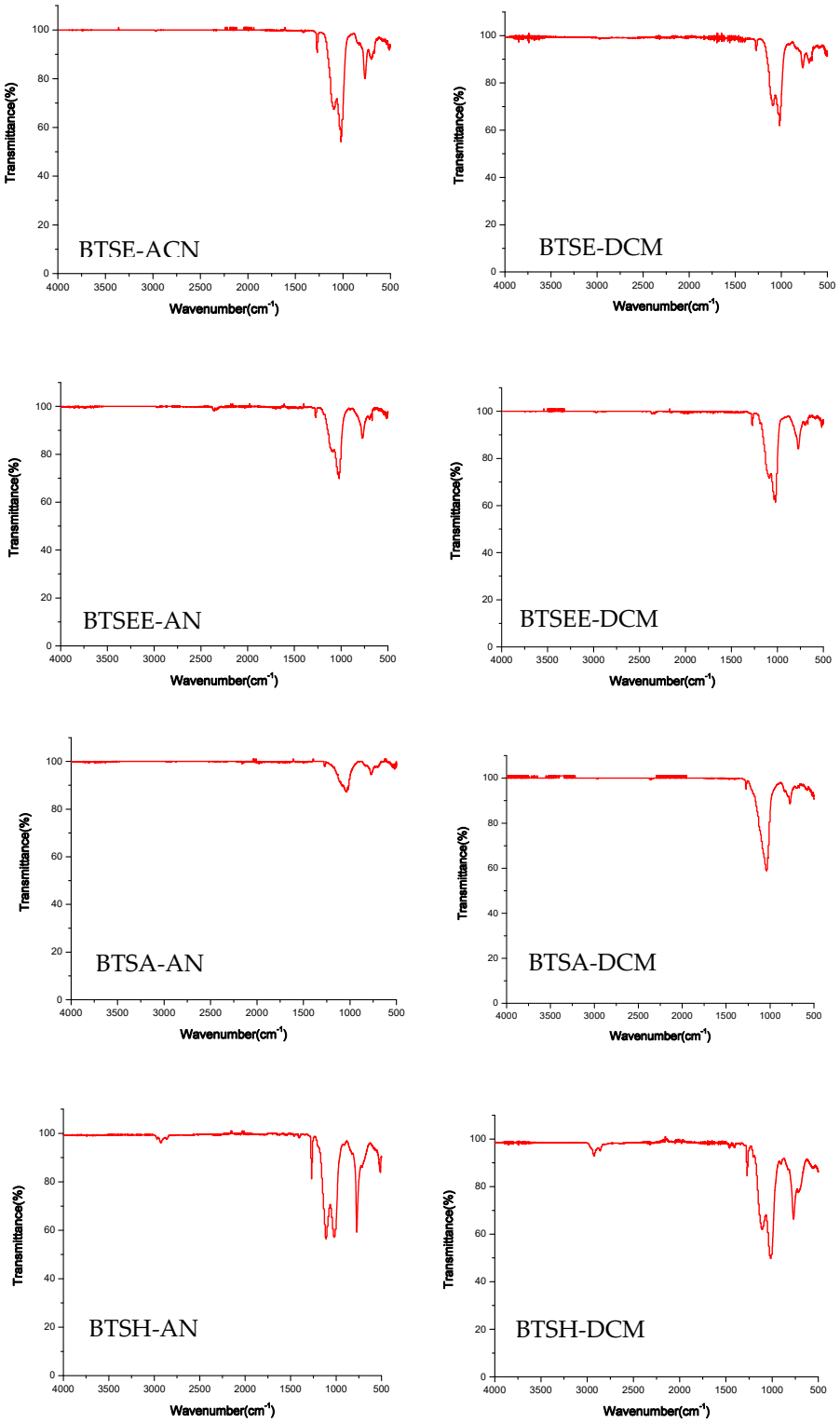


Figure S2. IR spectra of materials from reactions with different cross-linkers in dichloromethane (DCM) and acetonitrile (ACN).

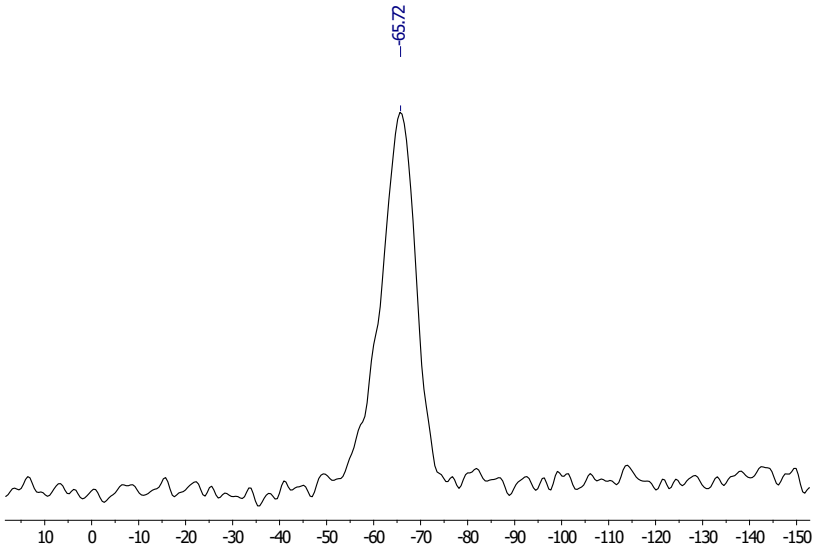
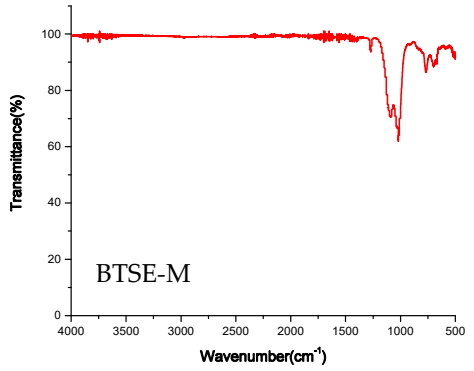
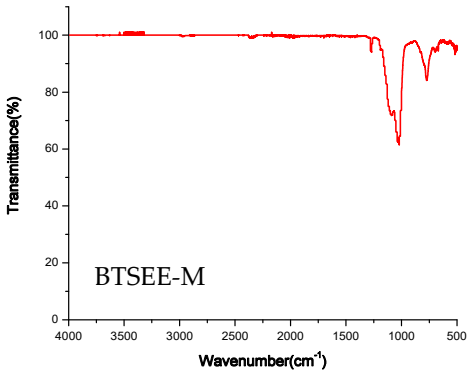
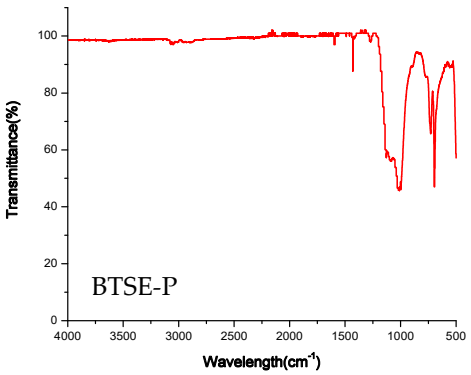
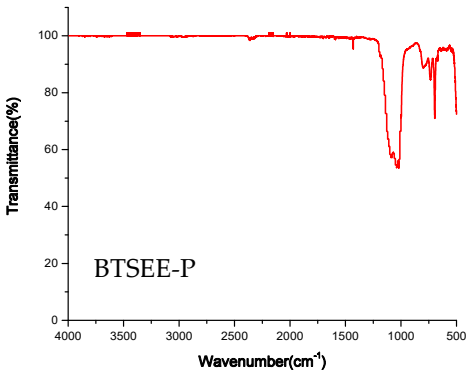


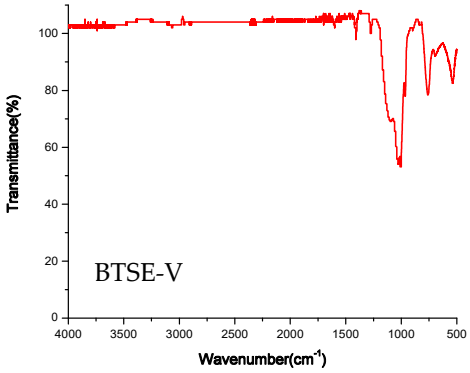
Figure S3. ^{29}Si NMR of methyl silsesquioxane based network polymer with hexyl spacer made in DCM. Note there are not extensive shoulders or side peaks indicating near complete reaction.

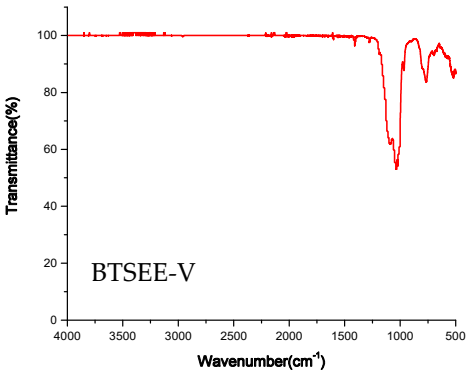

BTSE-M
Transmittance(%)
Wavenumber(cm-1)

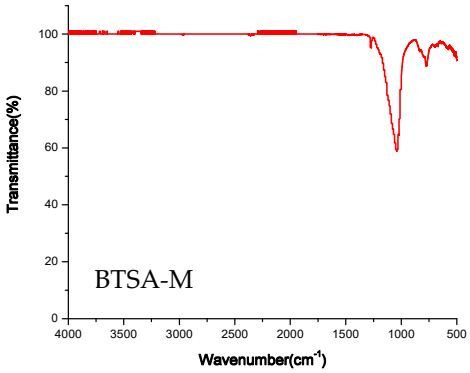

BTSEE-M
Transmittance(%)
Wavenumber(cm-1)

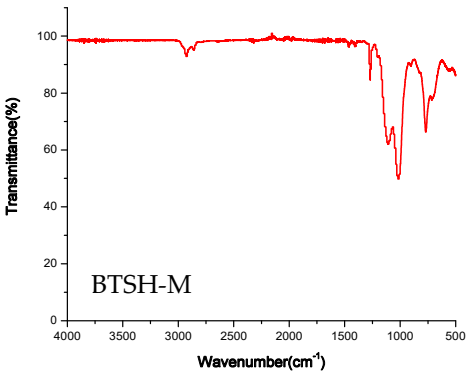

BTSE-P
Transmittance(%)
Wavelength(cm-1)


BTSEE-P
Transmittance(%)
Wavenumber(cm-1)


BTSE-V
Transmittance(%)
Wavenumber(cm-1)


BTSEE-V
Transmittance(%)
Wavenumber(cm-1)


BTSA-M
Transmittance(%)
Wavenumber(cm-1)


BTSH-M
Transmittance(%)
Wavenumber(cm-1)

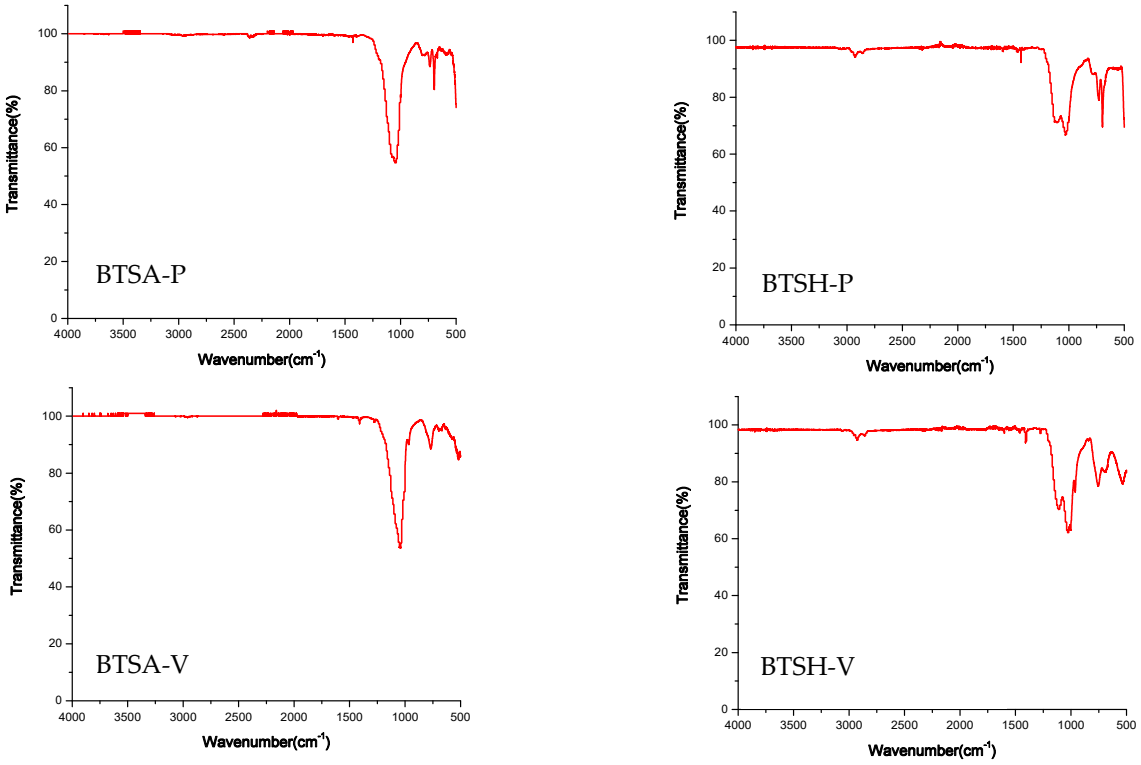


Figure S4. IR spectra of materials from reactions with different corner-silanes and cross-linkers, P = phenyl, V = vinyl, M = methyl from DCM.

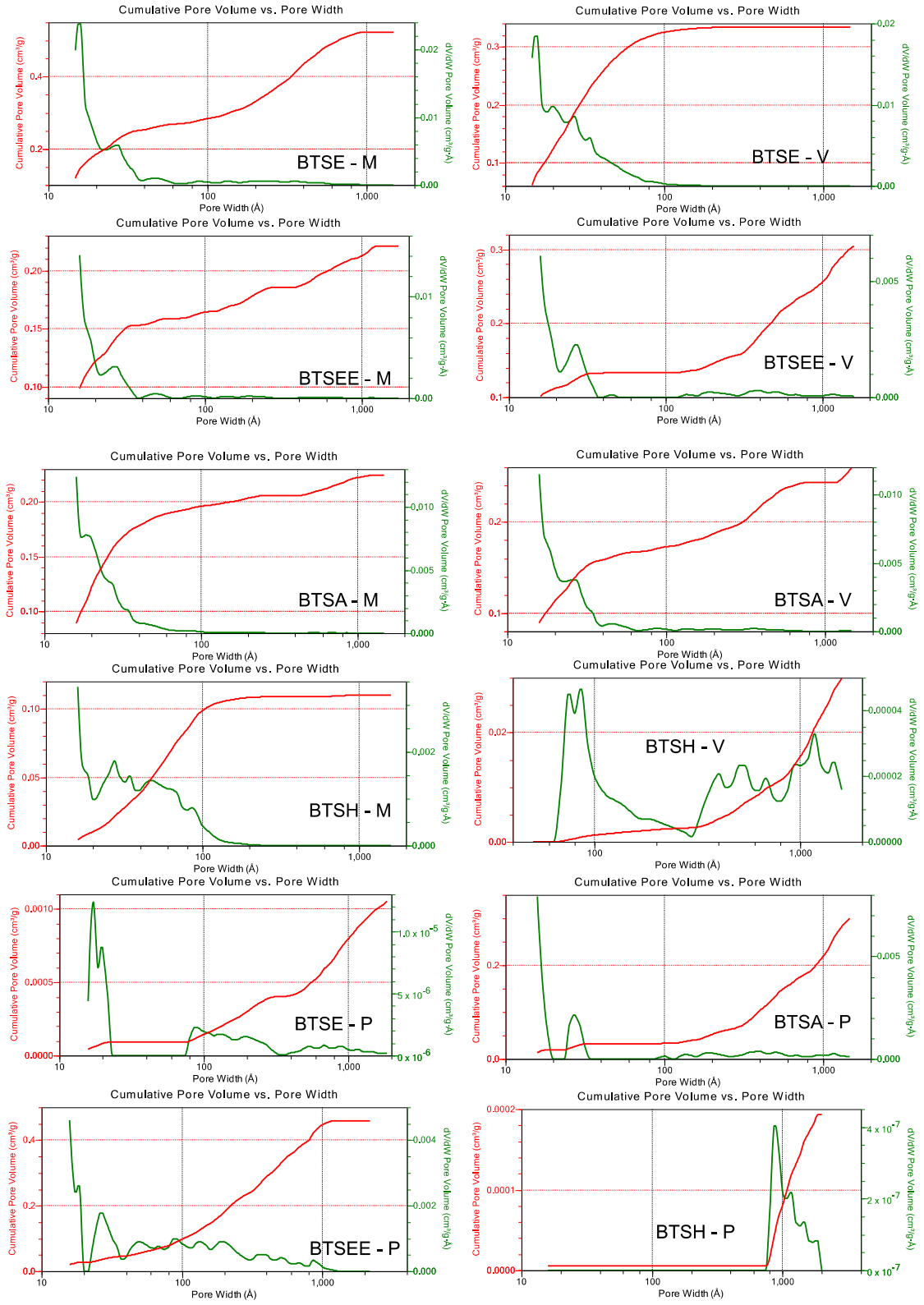


Figure S5. DFT pore size distribution plots and cumulative pore volume of materials from reactions with different corner-silanes and cross-linkers, P = phenyl, V = vinyl, M = methyl from DCM.