Supplementary Information

Figure S1  The plots of rate constants for $^{1-13}\text{C}$-n-butane isomerization reaction obtained from eq. (2) over CsPW (a) and Al$_{0.1}$CsPW (b).

Figure S2 Arrhenius plot for $^{1-13}\text{C}$-n-butane isomerization over Al$_{0.1}$CsPW.

Figure S3 $^1$H-decoupling $^{31}$P MAS NMR spectra of (a) Al$_{0.1}$CsPW and (b) CsPW after the adsorption of 2-$^{13}$C-acetone.