Electronic Supplementary Material (ESI) for Materials Advances.

Supporting Information

Reverse ADOR: Reconstruction of UTL zeolite from layered IPC-1P

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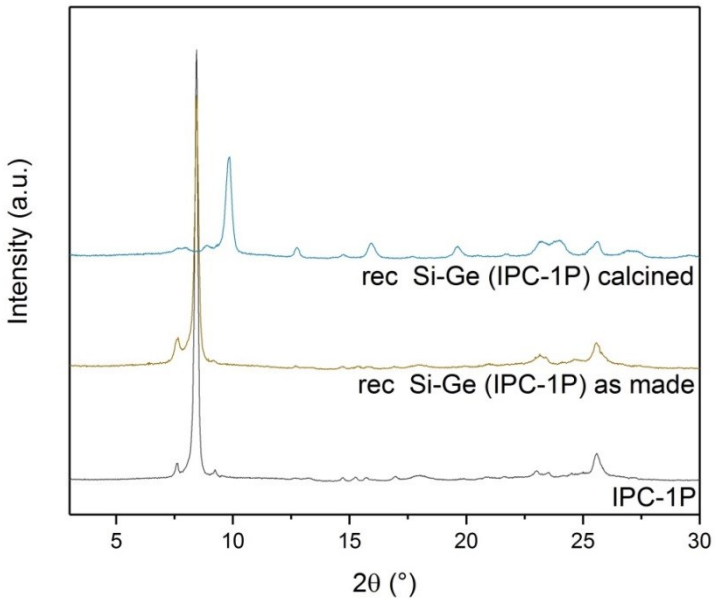

Figure S1: Powder XRD patterns of the parent IPC-1P sample (bottom), the sample treated with a mixture of $(EtO)_2Me_2Si$ and $(MeO)_4Ge$ (middle) and the calcined sample (top).

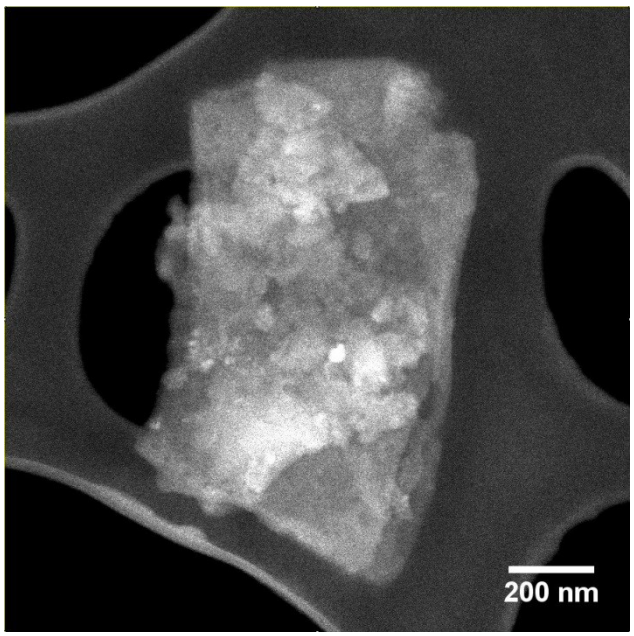

Figure S2: STEM image of the rec Ge sample

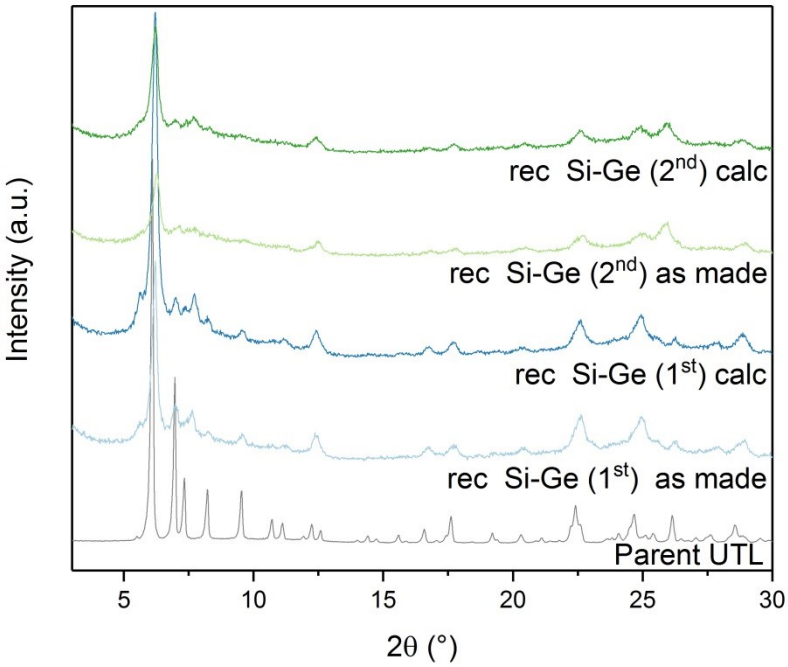

Figure S3: Powder XRD patterns of samples after the 1st and 2nd reconstruction cycle

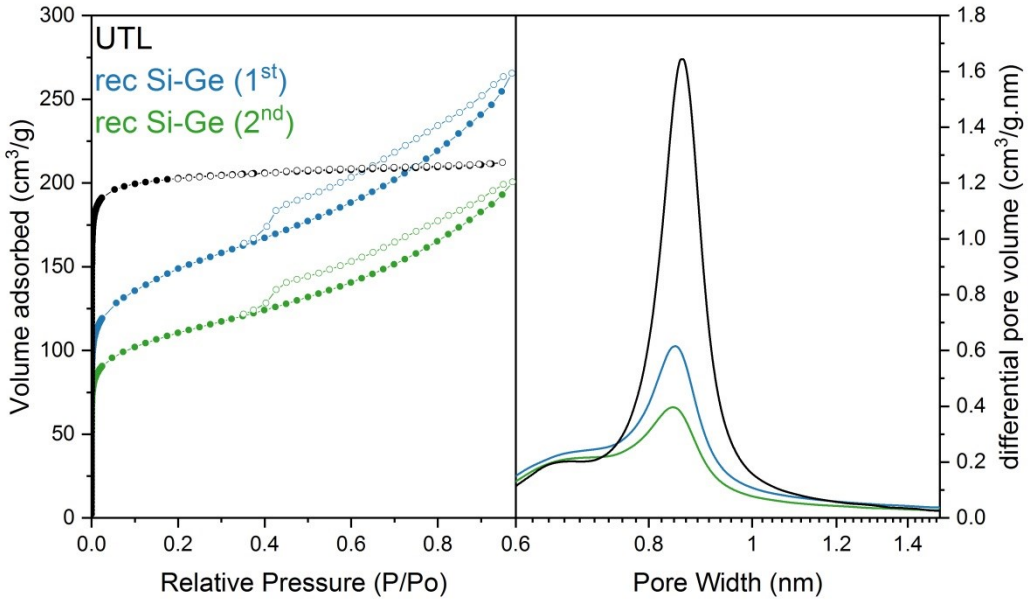

Figure S4: Argon adsorption-desorption isotherms (left) and H-K micropore size distributions (right) of samples after the 1st and 2nd reconstruction cycle

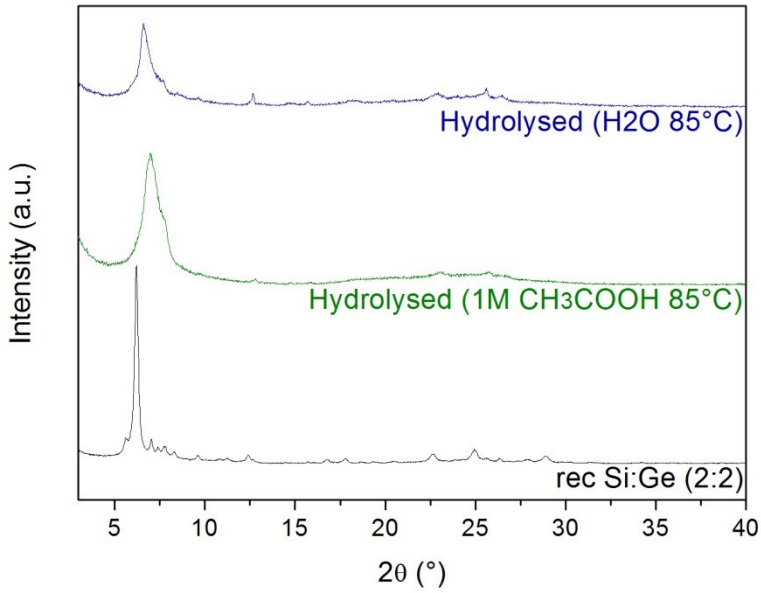

Figure S5: Powder XRD patterns of reconstructed UTL sample before and after hydrolysis in H_2O and acetic acid

Table S1: Textural properties of samples after the 1st and 2nd reconstruction cycle determined by Ar adsorption

	BET (m^2/g)	S_{ext} (m^2/g)	V_{tot} (cm^3/g)	V_{mic} (cm^3/g)
Parent **UTL**	620	52	0.27	0.25
1st run	456	164	0.34	0.10
2nd run	335	127	0.26	0.08

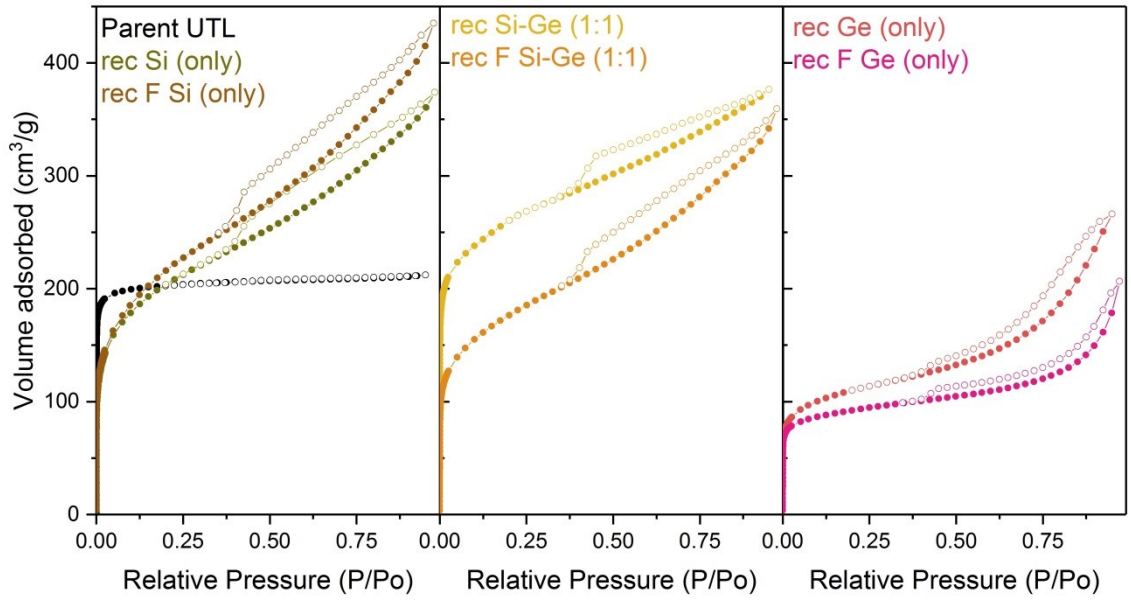

Figure S6: Argon adsorption-desorption isotherms of samples after reconstruction

with different Si:Ge compositions, with and without NH_4F

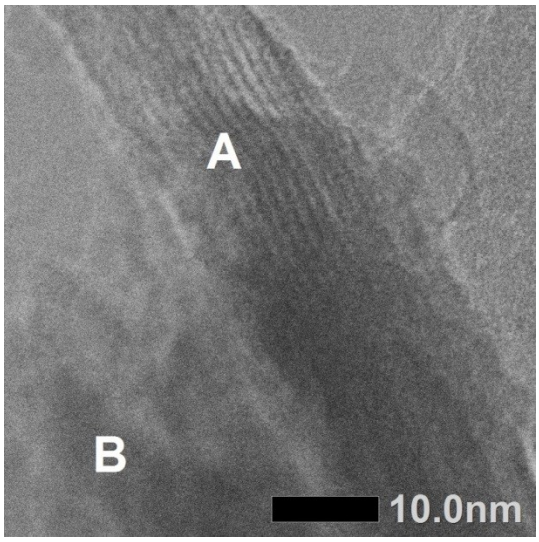

Figure S7: STEM image of the sample rec Si-Ge (1:1) reconstructed in presence of NH_4F, showing both crystalline (A) and amorphous (B) phases

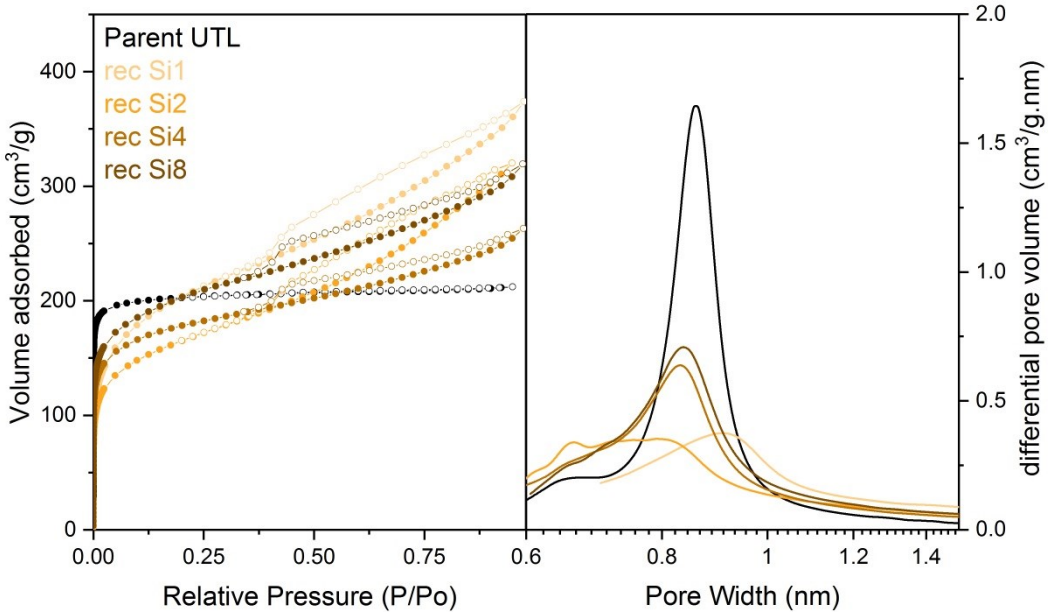

Figure S8: Argon adsorption-desorption isotherms (left) and H-K micropore size distributions (right) of the samples after D4R reconstruction with different Si sources

Table S2: Textural properties of the samples after D4R reconstruction with different Si sources determined by Ar adsorption

	BET (m^2/g)	S_{ext} (m^2/g)	V_{tot} (cm^3/g)	V_{mic} (cm^3/g)
UTL	620	52	0.27	0.25
Si1	645	334	0.48	0.12

Si2	542	172	0.34	0.09
Si4	555	131	0.34	0.14
Si8	633	188	0.41	0.13