Supporting Information of

Correlation between Na−Cs Ion Exchange Properties in the Alkaline Form and Acid Strength in the Proton Form of Zeolite

Naonobu Katada[1]*, Hayato Tamura[2], Takuya Matsuda[1], Yuya Kawatani[1], Yu Moriwaki[1], Manami Matsuo[1] and Ryota Kato[1]

1 Center for Research on Green Sustainable Chemistry, Faculty of Engineering, Tottori University, 4-101 Koyama-cho Minami, Tottori 680-8552, Japan

2 Tottori University Junior High School, 4-101 Koyama-cho Minami, Tottori 680-0945, Japan

*: Corresponding author, katada@tottori-u.ac.jp

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Table S1: Parameters showing pore and cavity sizes.

Framework type	Number of oxygen atoms in major rings forming micropores (*n* in *n*-ring)	Maximum diameter of a sphere: / nm*	
		that can be included	that can diffuse
FAU	12	1.124	0.735
LTA	8	1.105	0.421
MFI	10	0.636	0.446
YFI	8 and 12	0.797	0.618
MOR	8 and 12	0.67	0.645

*: Taken from the International Zeolite Association (IZA) structure database[49]

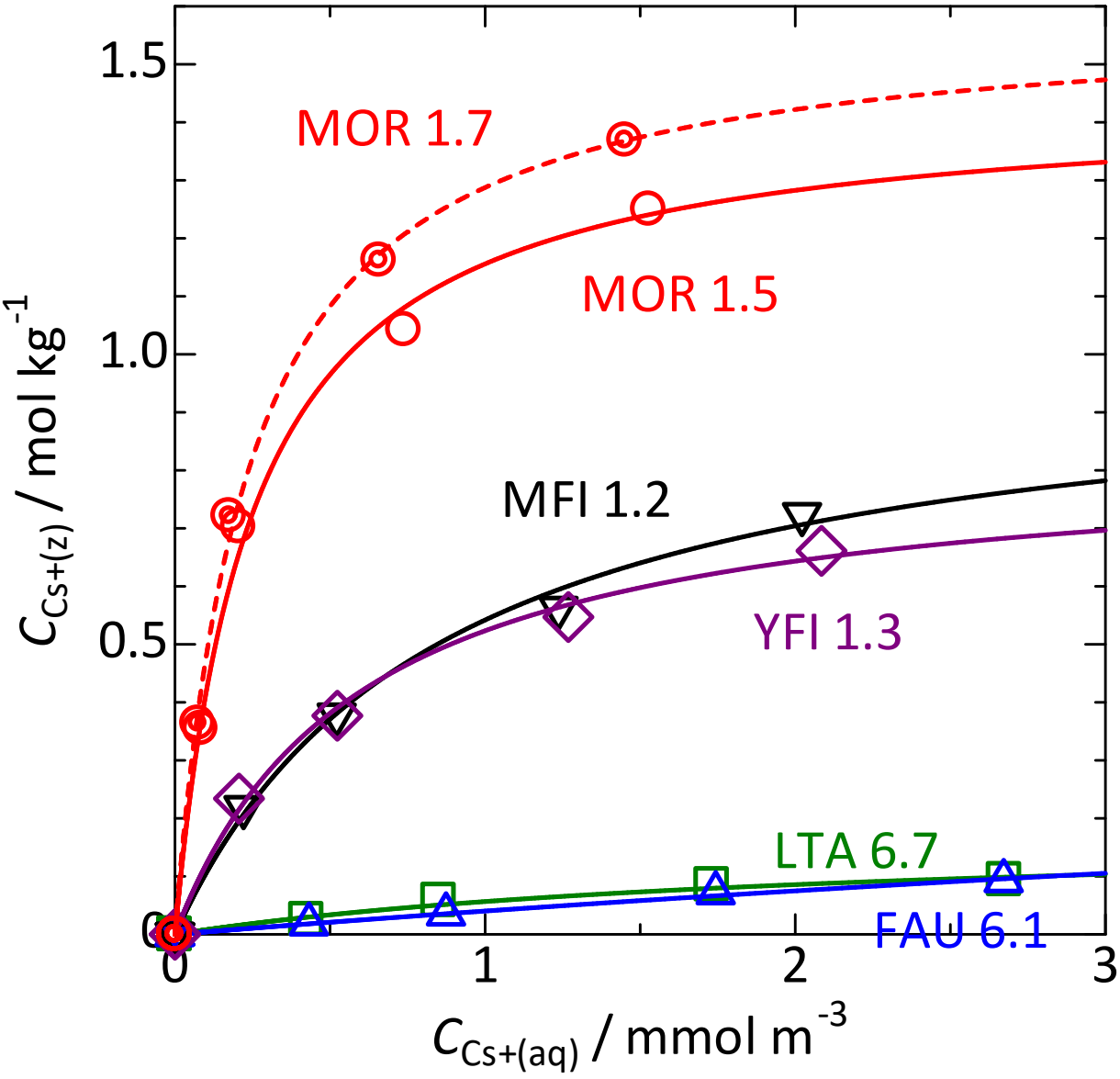


Figure S1: Compositions of solvent and zeolite at equilibrium.

(A)

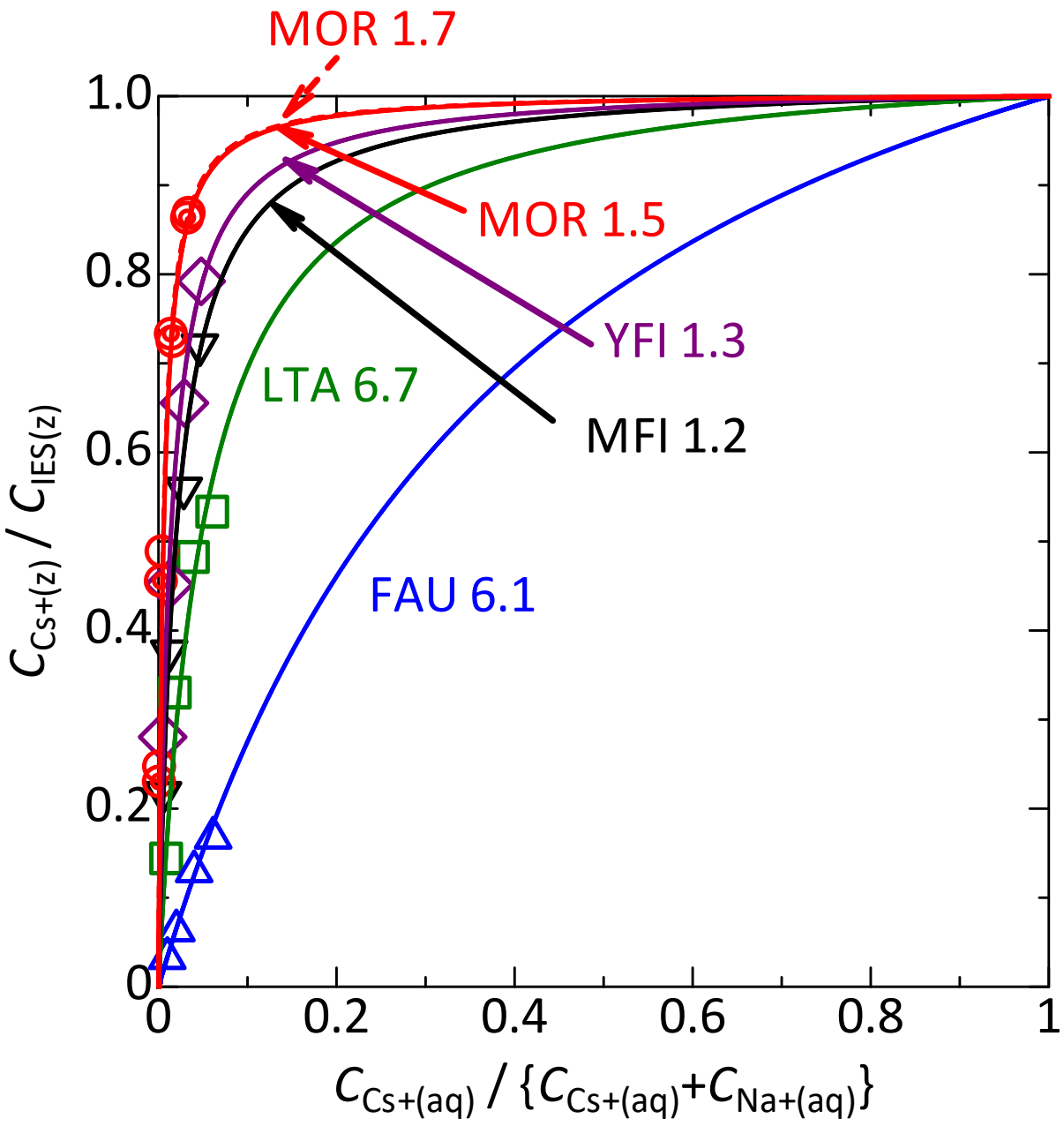
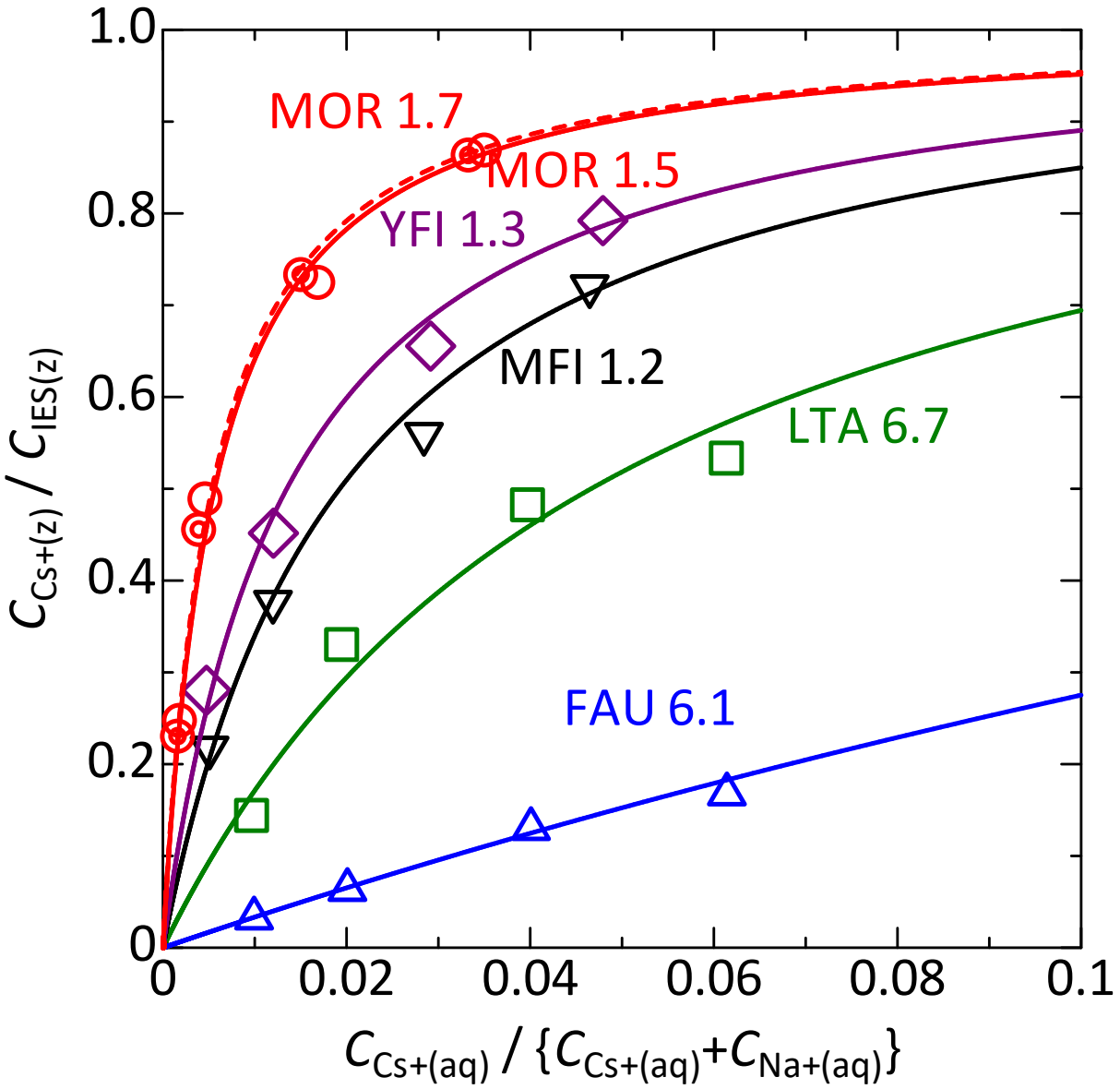


Figure S2: Ion exchange isotherms. (A) shows the whole plot, and (B) shows the enlarged area at low Cs concentration in the solvent. The symbols show the observed results, and the curves show the isotherms calculated by $y = 1 + \frac{x-1}{1+(K-1)x}$, where $x = \frac{c_{Cs^+(aq)}}{c_{Na^+(aq)} + c_{Cs^+(aq)}}$ and $y = \frac{c_{Cs^+(Z)}}{c_{IES(Z)}}$, based on the estimated K and $c_{IES(Z)}$.

(B)



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