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Article

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Supporting Information

ABSTRACT: ~0.05

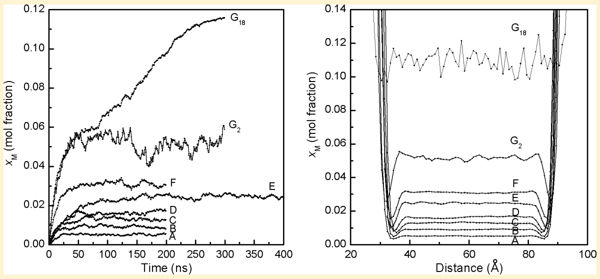

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Table 1. Details of Simulation Systems[a]

[illegible]	N	N	T ( )	P (a)	$L_{x(y)}$ ( )	χ	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	1.2	[illegible]	[illegible]	20	200
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	20	200
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	30.04	[illegible]	20	200
[illegible]	[illegible]	[illegible]	250.0	[illegible]	[illegible]	[illegible]	20	200
[illegible]	[illegible]	[illegible]	240.0	[illegible]	[illegible]	[illegible]	20	400
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.20	20	200
[illegible]	[illegible]	[illegible]	[illegible]	24.5	[illegible]	1.30	2	300
[illegible]	[illegible]	[illegible]	[illegible]	45.0	[illegible]	1.30	[illegible]	300

[a] [illegible]

[illegible]

■ [illegible]

[illegible]

$$\sigma_{MO} = (\sigma_M + \sigma_O)/2$$

$$\varepsilon_{MO} = \chi\sqrt{\varepsilon_M \varepsilon_O}$$

[illegible]

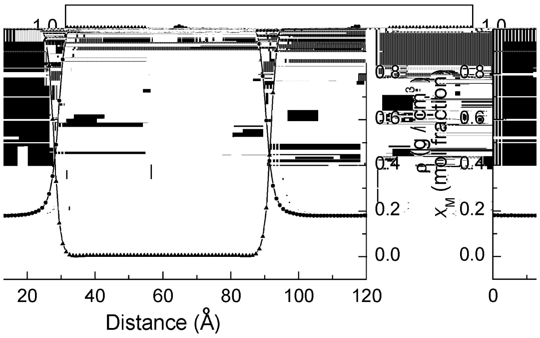

Figure 1. [illegible] 100 [illegible] (x) [illegible] (ρ).

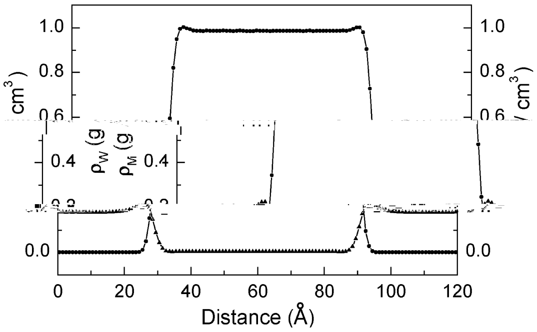

Figure 2. [illegible] (▲) [illegible] (●) [illegible]

[illegible] x (z) [illegible] 1 [illegible] 2 [illegible] 30 [illegible] 45–75 [illegible]

[illegible] "[illegible]" [illegible][13,25] [illegible] 5.3 [illegible]

■ E[illegible]

[illegible] x (t) ([illegible] 45 [illegible] 75 [illegible]) [illegible] 3. [illegible] 100 [illegible] 200 [illegible] 20 [illegible] 20 [illegible][13] [illegible]

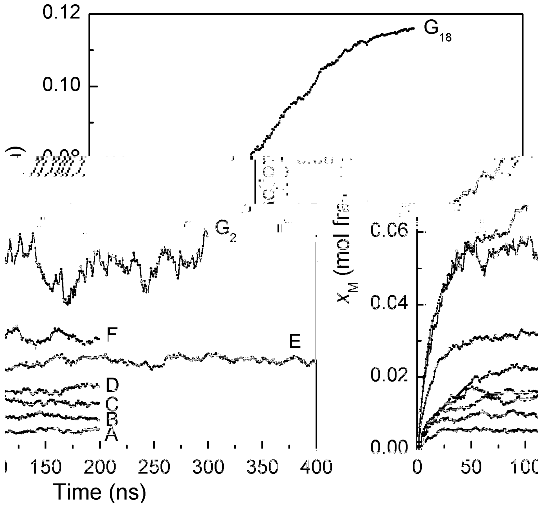

Figure 3. [illegible] x (t) [illegible] (45–75 [illegible]) [illegible] 1 [illegible]

[illegible] 3 [illegible] 4 [illegible] 100 [illegible]

[illegible] 4 [illegible] x (z) ([illegible] 100 [illegible]), [illegible]

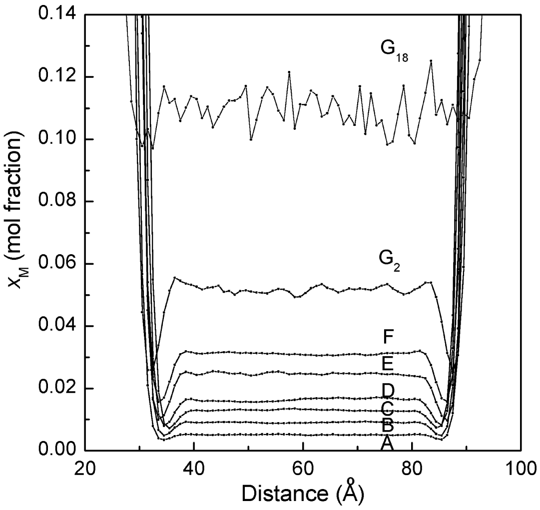

Figure 4. [illegible] x (z) [illegible] 100 [illegible] 1 [illegible]

[illegible] 40–50 [illegible]. O[illegible] 3 [illegible] 4, [illegible]

Table 2. Structural Characterization of Methane Solutions under the Equilibrium (system A) and Metastable (systems B−G_2) Conditions[a]

	N	N	x	C ($^{-3}$)	C_a ($^{-3}$)	ρ (/ ^{3})	f
	4.5(2)	[illegible]77 (1)	0.0051(2)	0.1[illegible] (1)	0.24[illegible]0)	0.[illegible]01(2)	0.214(0)
	[illegible].2(3)	[illegible] (1)	0.00[illegible]1(4)	0.30(1)	0.22[illegible] (1)	1.004[illegible]4)	0.201(0)
	12.2(3)	[illegible]20(1)	0.0131(3)	0.45(1)	0.200(1)	1.02[illegible]4(3)	0.1[illegible] (0)
	15.1(3)	[illegible]05(1)	0.01[illegible]4(3)	0.5[illegible]1)	0.255(1)	1.02[illegible] (4)	0.22[illegible]1)
	22.3[illegible])	[illegible]0(2)	0.02[illegible])	0[illegible]4(3)	0.3[illegible]5(3)	1.011[illegible] ( )	0.30[illegible] (2)
	[illegible].2(4)	[illegible]2(1)	0.0310(5)	1.05(1)	0.240(1)	1.0[illegible] (5)	0.20[illegible] (1)
G_2	45[illegible] (15)	[illegible]42(3)	0.0514([illegible])	[illegible]1(5)	0.[illegible] (3)	0.[illegible]02(15)	0.2[illegible] (1)

[a] a a a a a a a a (. ., 45 ≤ z ≤ [illegible]5) a 100 . N a N a a a a fi a x 1 N /(N + N) a a C 1 N /V, V a a a. a a C_a 1 N_a /V, N_a a . ρ a a a , a f a a a a a . a a a a a fi .[13] a a a a , a a 20 − a G_2.

a a a a a a a . a a (− G_2, a a a a 6a a 3 13). a . a a " " a x a a 2. a , fi a a a a a a fi a a (5) a

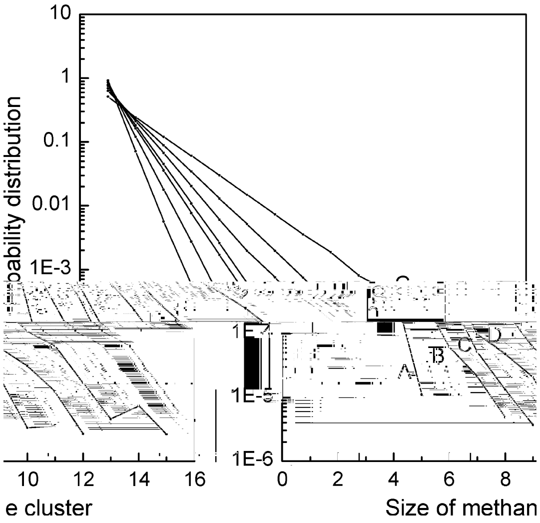

Figure 5. a fi a a a .

a a a a a a fi (. ., 45 ≤ z ≤ [illegible]5) a a a − a a , - a a a a a a a a G_2 (a 2), a a a a a a a a a a ( ) (1 5), 2% 52% G_2, a ( ) a a 5- a 0.00[illegible] x 0.02[illegible]66 G_2. a a a a a . , a a , a - a a a , a

a a a a (a 6a a 3 13). a a 5 a , a a a , a a , a . , a ($-G_n/kT$), G_n a n a , 5 a a a , G_n/kT, a a n. a a a ,[26] G_n a a a (a $n^{2/3}$) a a a (a n^1), a a a a a a a . a a a a , a a a 5 a a 3 a

Table 3. Free Energies for Methane Cluster Formation[a]

	$\Delta G_1/kT$		$\Delta G_1/kT$
	2.55		1.11
	1.[illegible]1		0.[illegible]1
	1.5[illegible]6	G_2	[illegible]0
	1.42		

[a] ΔG_1 a a a a a 5.

a a fi a a a (kT) G_2. ff a a a a a a a a , a a a a a a a a a a a .

■ D C

fi , a 2[illegible].5 a 1.2 a . a 4 /2005 a 250 a a a a a a a a a ,[24] a a a a fi . , a a a , a a a a . , a a x

[illegible]

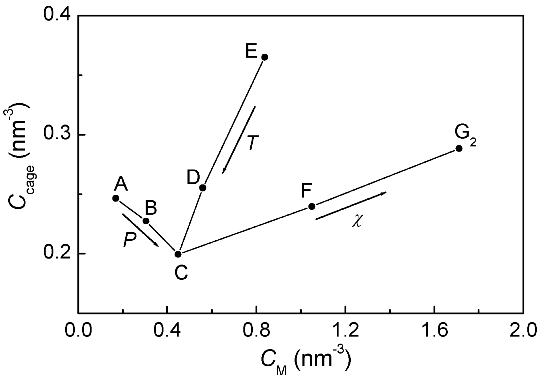
0.4
0.3
0.2
C_{cage} (nm^{-3})
0.0
0.4
0.8
1.2
1.6
2.0
C_{M} (nm^{-3})
A
B
C
D
E
F
G$_2$
P
T
χ

Figure 6. [illegible]

[illegible]

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