Supporting Information

Table S1 The detailed separation performance of various kinds of membranes

Membrane	C_3H_6 permeance [mol m^{-2} s^{-1} Pa^{-1}]	C_3H_6/C_3H_8 selectivity [-]	Ref.
Polymer	$2.01\sim3.35\times10^{-12}$	10~16*	1
	$6.7\times10^{-12}\sim4.4\times10^{-9}$	1.7~13	2
Facilitated transport membranes	$1.7\sim3.5\times10^{-9}$	9.4 ~ 15	3
	$4.5\sim7.1\times10^{-9}$	5 ~ 15	4
CMS	3×10^{-9}	36	5
	1×10^{-8}	31	6
	1.67×10^{-8}	13	7
	1.12×10^{-9}	100	8
ZIF	3×10^{-8}	50	9
	1.1×10^{-8}	30	10
	2×10^{-8}	55	11
	8.5×10^{-8}	36	12
	6.1×10^{-8}	142	13
	6.2×10^{-9}	61	14
	2.4×10^{-8}	93	15
	1.3×10^{-8}	67	16
	1.54×10^{-8}	300	17
	3.7×10^{-8}	200	18
	1.75×10^{-8}	200	19
Organosilica	6.32×10^{-7}	8.8	20
	4.95×10^{-8}	30	21
	7×10^{-9}	30	22
	1×10^{-7}	33	23
	1×10^{-7}	12	24
	4.5×10^{-8}	33	25
	1.7×10^{-8}	52	26
	2.2×10^{-7}	42	27
MMMs	$1.05\sim1.68\times10^{-10}$	15~20	28
	$1.34\sim1.68\times10^{-10}$	12.5~15	29

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