

SUPPORT INFORMATION
for

**PREDICTING THE VISCOSITY OF ASYMMETRIC HYDROCARBON MIXTURES
WITH THE EXPANDED FLUID VISCOSITY CORRELATION**

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Table 1S: Summary of the experimental viscosity and density data of the mixtures used in this study.

Mixture	#Data Points	Density Data	Pressure (MPa)	Temp. (K)	Data Source
Group 1					
methane + n-decane	100	available	10-75	303-393	42
methane + n-decane	295	available	20-140	293-375	43
Group 2					
methane+ethane	321	available	1.5-35	100-300	45
methane+propane	48	available	1.8-35	298-498	46
methane+propane	279	N/A	0.1-55	310-410	47
methane+n-butane	132	N/A	0.14-36	277-478	48
methane+n-hexane	53	available	15-40	293-353	49
n-pentane+n-octane	341	N/A	0.1-25	298-374	50
n-pentane+n-decane	343	N/A	0.1-25	298-374	51
n-hexane+n-heptane	11	available	0.1	298.15	44
n-hexane+n-octane	11	available	0.1	298.15	44
n-hexane+n-nonane	11	available	0.1	298.15	44
n-hexane+n-decane	11	available	0.1	298.15	44
n-hexane+n-dodecane	5	available	0.1	298.15	44
n-hexane+n-dodecane	13	available	0.1-178	298-373	52
n-hexane+n-tetradecane	5	available	0.1	298.15	44
n-hexane+n-hexadecane	5	available	0.1	298.15	44
n-hexane+n-hexadecane	115	available	0.1-199	298-373	44
n-heptane+n-octane	11	available	0.1	298.15	44
n-heptane+n-nonane	11	available	0.1	298.15	44
n-heptane+n-decane	11	available	0.1	298.15	44
n-heptane+n-decane	12	N/A	0.1-100	293-313	53

n-heptane+n-dodecane	5	available	0.1	298.15	44
n-heptane+n-tetradecane	5	available	0.1	298.15	44
n-heptane+n-hexadecane	5	available	0.1	298.15	44
n-heptane+n-eicosane	32	available	0.1	293-343	54
n-octane+n-nonane	11	available	0.1	298.15	44
n-octane+n-decane	11	available	0.1	298.15	44
n-octane+n-decane	360	N/A	0.1-25	2978-374	55
n-octane+n-dodecane	5	available	0.1	298.15	44
n-octane+n-dodecane	23	available	0.1-198	298-373	52
n-octane+n-tetradecane	5	available	0.1	298.15	44
n-octane+n-hexadecane	5	available	0.1	298.15	44
n-nonane+n-decane	11	available	0.1	298.15	44
n-nonane+n-dodecane	5	available	0.1	298.15	44
n-nonane+n-tetradecane	5	available	0.1	298.15	44
n-nonane+n-hexadecane	5	available	0.1	298.15	44
n-decane+n-dodecane	5	available	0.1	298.15	44
n-decane+n-tetradecane	5	available	0.1	298.15	44
n-decane+n-hexadecane	5	available	0.1	298.15	44
n-decane+n-hexadecane	54	N/A	0.1-100	313-353	53
n-dodecane+n-tetradecane	5	available	0.1	298.15	44
n-dodecane+n-hexadecane	5	available	0.1	298.15	44
n-tetradecane+n-hexadecane	5	available	0.1	298.15	44
n-hexadecane+n-eicosane	35	available	0.1	293-343	54
i-octane+n-hexane	7	available	0.1	298.15	44
i-octane+n-octane	16	available	0.1-101	298-373	56
i-octane+n-decane	7	available	0.1	298.15	44
i-octane+n-dodecane	16	available	0.1-104	298-372	58
i-octane+n-tetradecane	7	available	0.1	298.15	44
3-methylpentane+n-decane	7	available	0.1	298.15	44
3-methylpentane+n-hexadecane	7	available	0.1	298.15	44
2-methylpentane+n-hexadecane	7	available	0.1	298.15	44
2-methylhexane+n-tetradecane	8	available	0.1	298.15	44
2,3-dimethylpentane+n-tetradecane	8	available	0.1	298.15	44
2,2-dimethylpentane+n-decane	7	available	0.1	298.15	44
2,2-dimethylpentane+n-hexadecane	7	available	0.1	298.15	44
2,2-dimethylhexane+n-decane	7	available	0.1	298.15	44
2,2-dimethylhexane+n-hexadecane	7	available	0.1	298.15	44
2,5-dimethylhexane+n-hexadecane	8	available	0.1	298.15	44
squalane+n-butane	64	available	0.1-30	273-333	39
squalane+n-hexane	48	available	0.1-30	273-333	39
squalane+n-octane	48	available	0.1-30	273-333	39
methylcyclohexane+methane	100	available	20-140	323-424	57

methylcyclohexane+n-hexane	7	available	0.1	298.15	44
methylcyclohexane+n-heptane	125	available	0.1-100	303-343	58
methylcyclohexane+n-decane	7	available	0.1	298.15	44
methylcyclohexane+n-hexadecane	7	available	0.1	298.15	44
cyclohexane+methane	56	available	10-40	295-343	49
cyclohexane+n-octane	120	available	0.1-163	298-348	59
cyclohexane+n-dodecane	94	available	0.1-180	298-348	59
cyclohexane+n-hexadecane	7	available	0.1	298.15	44
cyclohexane+n-hexadecane	72	available	0.1-181	298-348	59
cis-1,2-dimethylcyclohexane+n-hexane	7	available	0.1	298.15	44
cis-1,2-dimethylcyclohexane+n-hexadecane	7	available	0.1	298.15	44
toluene+methane	280	available	20-140	293-373	60
toluene+n-hexane	72	available	0.1-200	298-373	61
toluene+n-decane	7	available	0.1	298.15	44
toluene+n-hexadecane	7	available	0.1	298.15	44
benzene+methane	102	available	12-48	293-433	49
benzene+n-decane	11	available	0.1	298.15	44
benzene+n-tetradecane	160	N/A	0.7-60	313-393	62
o-xylene+n-hexane	7	available	0.1	298.15	44
o-xylene+n-decane	7	available	0.1	298.15	44
o-xylene+n-tetradecane	7	available	0.1	298.15	44
p-xylene+n-hexane	7	available	0.1	298.15	44
p-xylene+n-heptane	66	available	0.1	298-343	63, 64
p-xylene+n-octane	86	available	0.1	298-353	63
p-xylene+n-decane	7	available	0.1	298.15	44
p-xylene+n-tetradecane	7	available	0.1	298.15	44
benzene+o-xylene	7	available	0.1	298.15	44
benzene+p-xylene	7	available	0.1	298.15	44
toluene+o-xylene	7	available	0.1	298.15	44
toluene+p-xylene	7	available	0.1	298.15	44
o-xylene+p-xylene	7	available	0.1	298.15	44
benzene+cyclohexane	7	available	0.1	298.15	44
benzene+cyclohexane	160	N/A	0.7-60	313-393	65
o-xylene+cyclohexane	7	available	0.1	298.15	44
toluene+methylcyclohexane	7	available	0.1	298.15	44
p-xylene+cyclohexane	55	available	0.1	298-313	63
carbon dioxide+methane	132	available	3.4-70	323-474	66
carbon dioxide + ethane	206	available	2.1-37	210-320	67
carbon dioxide + ethane	174	available	1.7-62	320-500	68
carbon dioxide+n-decane	70	available	7-30	310-403	69
carbon dioxide+n-decane	12	available	7-12	311-403	70
carbon dioxide +squalane	60	available	10-20	293-353	40

Group 3

methane+cis-decalin	57	available	60-140	323-423	71
n-pentane+n-decane	5	available	0.2-0.5	354-402	70
n-heptane+1-methylnaphthalene	126	available	0.1-100	303-343	58
n-heptane+n-tetracosane	19	available	0.1	313-343	54
n-heptane+n-docosane	25	available	0.1	303-343	54
n-octane+n-tetracosane	19	available	0.1	318-338	72
n-decane+n-eicosane	24	available	0.1	293-343	73
n-decane+n-docosane	20	available	0.1	303-343	73
n-decane+n-tetracosane	16	available	0.1	313-343	73
n-tridecane+1-methylnaphthalene	294	available	0.1-100	293-353	74
n-tridecane+2,2,4,4,6,8,8-heptamethylnonane	294	available	0.1-100	293-353	38
1-methylnaphthalene...	294	available	0.1-100	293-353	75
+2,2,4,4,6,8,8-heptamethylnonane					
n-tridecane+1-methylnaphthalene...	882	available	0.1-100	293-353	37
+2,2,4,4,6,8,8-heptamethylnonane					
methylcyclohexane...	294	available	0.1-100	293-353	76
+2,2,4,4,6,8,8-heptamethylnonane					
1-methylnaphthalene+methylcyclohexane	126	available	0.1-100	303-343	58
cis-decalin+2,2,4,4,6,8,8-heptamethylnonane	294	available	0.1-100	293-353	77
cis-decalin+methylcyclohexane	294	available	0.1-100	293-353	78
cyclohexane+toluene	55	available	0.1	283-323	79
cyclohexane+decalin	55	available	0.1	283-323	79
cyclohexane+n-tetradecane	128	N/A	0.7-60	313-393	65
toluene+decalin	55	available	0.1	283-323	79
n-butane+n-hexane+n-decane	5	available	0.3-0.8	324-396	70
n-butane+n-hexane+n-decane+carbon dioxide	10	available	2.5-4.9	324-396	70
n-pentane+n-octane+n-decane	540	N/A	0.1-25	298-373	80
n-pentane+n-hexane+n-heptane+n-decane	4	available	0.3-0.4	360-396	70
n-pentane+n-hexane+n-heptane...	8	available	2.5-4.9	360-396	70
+n-decane+carbon dioxide					
n-pentane+n-decane+carbon dioxide	10	available	2.5-4.9	354-402	70
n-hexane+n-heptane+n-decane	15	available	0.1	298.15	81
n-hexane+n-octane+n-decane+n-tetracosane	19	available	0.1	328-338	72
n-heptane+n-nonane+n-dodecane+n-hexadecane	10	available	0.1	303-308	72
n-heptane+n-eicosane+n-tetracosane	26	available	0.1	303-343	54
n-decane+n-dodecane+n-tetradecane+....	18	N/A	0.1-100	313-353	53
n-hexadecane					
n-decane+n-eicosane+n-docosane+n-tetracosane	30	available	0.1	303-343	73
n-heptane ...	378	available	0.1-100	303-343	82
+1-methylnaphthalene+methylcyclohexane					

cis-decalin+2,2,4,4,6,8,8-heptamethylnonane... +methylcyclohexane	546	available	0.1-100	293-353	83
cyclohexane+n-hexane+n-heptane	15	available	0.1	298.15	83
toluene+n-hexane+n-heptane	15	available	0.1	298.15	81
n-hexane+n-decane+n-dodecane+n-hexadecane n-tridecane....	10	available	0.1	303-308	72
+2,2,4,4,6,8,8-heptamethylnonane... +heptylcyclohexane+heptylbenzene... +1-methylnaphthalene	42	available	0.1-100	293-353	84
n-tridecane+heptylcyclohexane+heptylbenzene	42	available	0.1-100	293-353	84
