

Table I_ESI Summary of the vibrational relaxation times, integrated density changes together with experimental conditions in 20%, 10% and 2% mixture of CH₃I in Krypton

T ₂ , K	P ₂ , Torr	τ _{app} (μs)	Pτ(ns-atm)	ρ(∞)-ρ(0) (10 ⁻⁶ g/cm ³)		Δρ _{experiment} /Δρ _{thermo}
				Calc.	Expt.	
20% CH ₃ I-Kr						
658	17.9	2.45	232.0	5.35	6.36	1.189
716	18.9	2.05	224.7	5.77	7.02	1.218
768	17.4	2.12	229.1	5.34	6.77	1.266
781	20.1	1.85	234.8	6.17	7.13	1.155
881	20.1	1.52	214.7	6.16	8.04	1.306
937	19.8	1.45	212.2	6.02	7.77	1.290
1008	20.2	1.30	205.5	6.05	7.63	1.261
1039	18.8	1.30	195.8	5.61	7.80	1.391
1162	19.7	1.10	187.9	5.70	8.75	1.535
1220	20.3	1.00	181.7	5.69	8.63	1.515
1323	21.0	1.00	198.0	5.80	8.31	1.434
1403	21.1	0.92	189.4	5.70	7.88	1.383
1471	20.7	0.95	197.1	5.49	7.22	1.315
1528	20.5	0.90	188.8	5.33	7.02	1.316
1574	19.6	1.00	203.7	5.04	6.18	1.227
1663	19.3	1.05	216.5	4.82	6.32	1.311
10% CH ₃ I-Kr						
712	18.5	3.20	261.6	2.95	3.55	1.204
754	18.8	2.80	243.9	3.06	3.40	1.111
805	19.7	2.65	254.3	3.25	4.28	1.316
879	22.1	2.00	229.3	3.68	4.64	1.262
927	21.2	2.00	227.8	3.52	4.21	1.197
985	19.1	3.20	261.0	2.99	3.67	1.231
1024	19.3	2.10	231.5	3.19	4.05	1.271
1142	20.3	1.70	209.6	3.28	4.63	1.411
1201	19.4	1.80	217.8	3.10	4.01	1.293
1337	19.8	1.48	192.6	3.08	3.90	1.266
1436	19.7	1.60	214.0	3.00	3.81	1.273
1529	20.0	1.35	188.3	2.98	3.53	1.184
1622	20.5	1.50	219.6	2.98	4.07	1.369
1677	18.9	1.70	232.5	2.70	3.93	1.454
2% CH ₃ I-Kr						
636	18.9	3.20	193.9	0.45	1.12	2.466
659	20.4	3.20	215.0	0.56	0.97	1.740
666	21.3	3.30	231.5	0.60	1.08	1.800
741	23.1	2.80	229.2	0.79	1.23	1.564
741	25.3	2.90	259.8	0.86	1.30	1.516
763	20.3	3.00	219.6	0.71	1.06	1.499
766	22.0	2.80	224.0	0.77	1.50	1.949
821	20.3	2.80	213.7	0.74	1.11	1.497

868	22.4	2.00	174.1	0.83	1.34	1.618
875	18.6	2.70	196.2	0.69	1.09	1.583
937	18.3	2.80	205.8	0.69	1.10	1.596
960	20.5	2.30	192.2	0.77	1.56	2.022
1021	17.9	2.80	209.0	0.67	1.08	1.600
1039	19.9	2.50	209.7	0.75	1.54	2.067
1081	19.4	2.60	215.3	0.73	1.04	1.431
1149	19.8	2.20	190.9	0.73	1.16	1.583
1198	19.3	2.00	171.1	0.71	0.94	1.319
1296	21.0	2.10	201.2	0.76	1.54	2.028
1299	18.8	2.20	188.4	0.68	1.09	1.600
1376	20.3	1.90	179.2	0.73	1.33	1.835
1421	20.7	1.70	164.7	0.73	0.89	1.214
1474	19.7	1.70	158.7	0.69	1.27	1.834
1500	19.0	1.80	162.5	0.67	0.97	1.462
1586	20.0	1.70	164.3	0.69	1.33	1.924
1602	18.9	1.80	164.9	0.65	0.88	1.357
1682	19.4	1.50	142.4	0.65	0.87	1.335
