

ϕ (\pm 1%)	388 K (\pm 2 K)	398 K (\pm 2 K)	328 K (\pm 2 K)	298 K (\pm 2 K)	358 K (\pm 2 K)	378 K (\pm 2 K)
0.55	24.58 (\pm 0.77)	23.92 (\pm 0.76)	15.55 (\pm 0.63)	12.56 (\pm 0.59)	18.14 (\pm 0.67)	21.27 (\pm 0.72)
0.60	30.48 (\pm 0.86)	29.57 (\pm 0.84)	20.80 (\pm 0.71)	17.3 (\pm 0.66)	23.78 (\pm 0.76)	27.67 (\pm 0.82)
0.65	36.41 (\pm 0.95)	36.56 (\pm 0.95)	25.64 (\pm 0.78)	21.96 (\pm 0.73)	29.41 (\pm 0.84)	33.56 (\pm 0.90)
0.70	41.94 (\pm 1.03)	42.15 (\pm 1.03)	30.29 (\pm 0.85)	26.07 (\pm 0.79)	34.78 (\pm 0.92)	39.05 (\pm 0.99)
0.75	47.16 (\pm 1.11)	47.83 (\pm 1.12)	35.12 (\pm 0.93)	30.47 (\pm 0.86)	39.58 (\pm 0.99)	43.84 (\pm 1.06)
0.80	52.25 (\pm 1.18)	53.21 (\pm 1.20)	39.11 (\pm 0.99)	33.96 (\pm 0.91)	44.44 (\pm 1.07)	48.79 (\pm 1.13)
0.85	56.59 (\pm 1.25)	57.75 (\pm 1.27)	42.94 (\pm 1.04)	37.45 (\pm 0.96)	48.74 (\pm 1.13)	52.72 (\pm 1.19)
0.90	60.25 (\pm 1.30)	61.80 (\pm 1.33)	46.32 (\pm 1.09)	40.37 (\pm 1.01)	52.33 (\pm 1.18)	56.83 (\pm 1.25)
0.95	63.07 (\pm 1.35)	64.37 (\pm 1.37)	49.10 (\pm 1.14)	42.63 (\pm 1.04)	55.28 (\pm 1.23)	59.95 (\pm 1.30)
1.00	64.52 (\pm 1.37)	66.81 (\pm 1.40)	50.90 (\pm 1.16)	44.33 (\pm 1.06)	57.58 (\pm 1.26)	62.25 (\pm 1.33)
1.05	66.11 (\pm 1.39)	68.64 (\pm 1.43)	52.18 (\pm 1.18)	45.37 (\pm 1.08)	58.84 (\pm 1.28)	63.89 (\pm 1.36)
1.10	67.01 (\pm 1.41)	69.47 (\pm 1.44)	52.85 (\pm 1.19)	45.90 (\pm 1.09)	59.50 (\pm 1.29)	64.45 (\pm 1.37)
1.15	66.51 (\pm 1.40)	68.99 (\pm 1.43)	52.37 (\pm 1.19)	45.39 (\pm 1.08)	59.46 (\pm 1.29)	64.39 (\pm 1.37)
1.20	65.68 (\pm 1.39)	67.95 (\pm 1.42)	51.66 (\pm 1.17)	44.68 (\pm 1.07)	58.78 (\pm 1.28)	62.79 (\pm 1.34)
1.25	64.10 (\pm 1.36)	66.75 (\pm 1.40)	49.89 (\pm 1.15)	43.21 (\pm 1.05)	57.27 (\pm 1.26)	60.93 (\pm 1.31)
1.30	60.97 (\pm 1.31)	64.29 (\pm 1.36)	47.59 (\pm 1.11)	41.2 (\pm 1.02)	54.69 (\pm 1.22)	58.91 (\pm 1.28)
1.35	57.30 (\pm 1.26)	59.32 (\pm 1.29)	44.38 (\pm 1.07)	38.53 (\pm 0.98)	51.44 (\pm 1.17)	56.46 (\pm 1.25)
1.40	53.54 (\pm 1.20)	54.99 (\pm 1.22)	41.03 (\pm 1.02)	35.28 (\pm 0.93)	47.22 (\pm 1.11)	52.07 (\pm 1.18)
1.45	48.76 (\pm 1.13)	51.02 (\pm 1.17)	36.13 (\pm 0.94)	31.43 (\pm 0.87)	43.35 (\pm 1.05)	47.30 (\pm 1.11)
1.50	43.48 (\pm 1.05)	45.29 (\pm 1.08)	31.94 (\pm 0.88)	27.15 (\pm 0.81)	38.72 (\pm 0.98)	41.91 (\pm 1.03)
1.55	38.26 (\pm 0.97)	39.51 (\pm 0.99)	26.96 (\pm 0.80)	23.20 (\pm 0.75)	33.48 (\pm 0.90)	36.22 (\pm 0.94)
1.60	32.72 (\pm 0.89)	33.56 (\pm 0.90)	21.58 (\pm 0.72)	18.89 (\pm 0.68)	28.38 (\pm 0.83)	30.99 (\pm 0.86)
1.65	27.62 (\pm 0.81)	28.01 (\pm 0.82)	16.82 (\pm 0.65)	15.21 (\pm 0.63)	23.40 (\pm 0.75)	25.10 (\pm 0.78)

Figure 1: 2-methyl furan laminar flame velocity experimental data with reported errors.

P_5 / atm	T_5 / K	τ (d[CH*]/dt=MAX) / μ s
0.95	1254	1066.67
0.92	1290	708.33
0.99	1338.5	525
1.01	1388.8	346.67
0.99	1408.5	251.67
0.9	1413.3	235
1.07	1437.5	170
0.99	1453.3	185
1.19	1461.2	150.6
1.19	1500	106.55
1.01	1509	96.67
1.19	1535	86.67
1	1556	85
1.02	1566.6	75

Figure 2: Reflected shock parameters and ignition delay times for mixtures of 1% 2-methyl furan, 12% O₂ in Argon ($\phi = 0.5$).

P_5 / atm	T_5 / K	τ (d[CH*]/dt=MAX) / μ s
1	1336.6	1033.33
1.03	1389	641.67
1.05	1407	591.67
0.99	1430.4	395.77
1.02	1448	364.74
0.81	1472.8	283.33
1.02	1534.9	207.38
1	1566.4	158.33
0.9	1571.2	166.67
0.98	1601	127.54
0.98	1712	78.33

Figure 3: Reflected shock parameters and ignition delay times for 1% 2-methyl furan, 6% O₂ in Argon ($\phi = 1.0$).

P_5 / atm	T_5 / K	τ (d[CH*]/dt=MAX) / μ s
0.94	1496.1	1083.33
1.08	1498.8	1015.87
1.06	1504.9	870.83
1.02	1508.3	904.17
1	1511.3	804.17
1.06	1525.3	858.33
1.11	1591.6	483.33
1	1597.3	420.83
0.95	1599.2	453.33
1.11	1611.8	395
1.13	1623.5	370.83
1.01	1717.1	200
0.99	1769.4	131.67
0.97	1807.4	111.67

Figure 4: Reflected shock parameters and ignition delay times for 1% 2-methyl furan, 3% O₂ in Argon ($\phi = 2.0$).