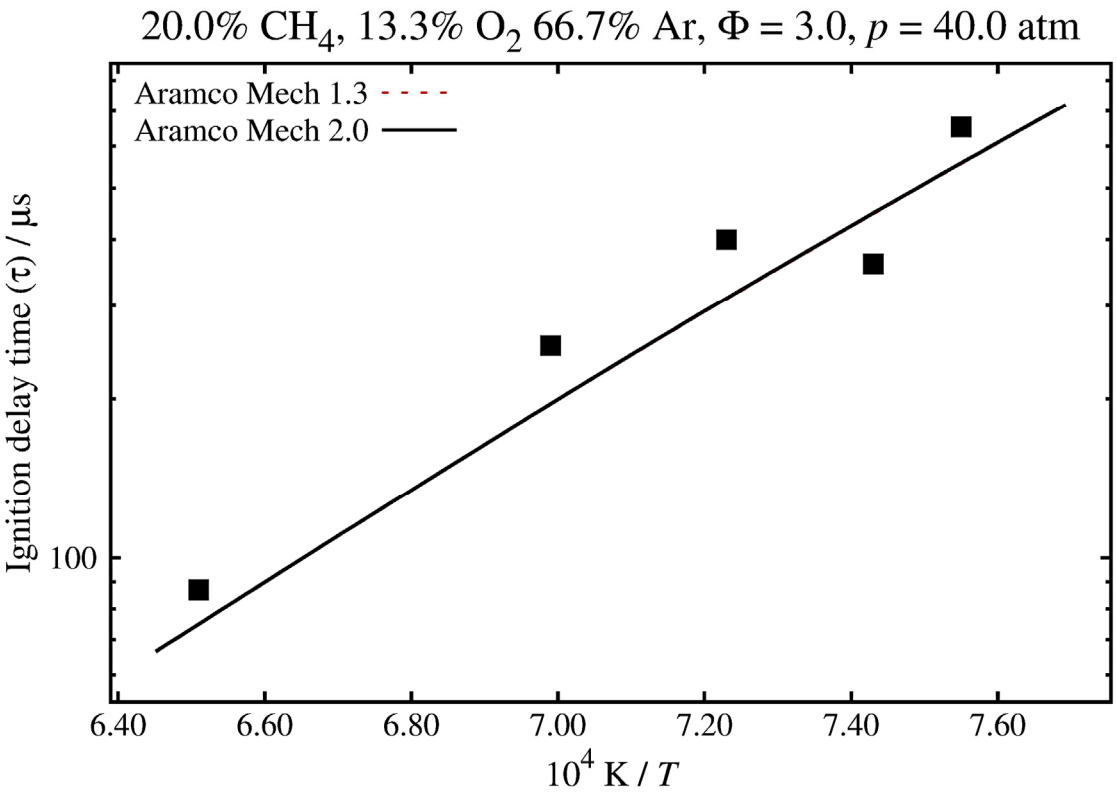
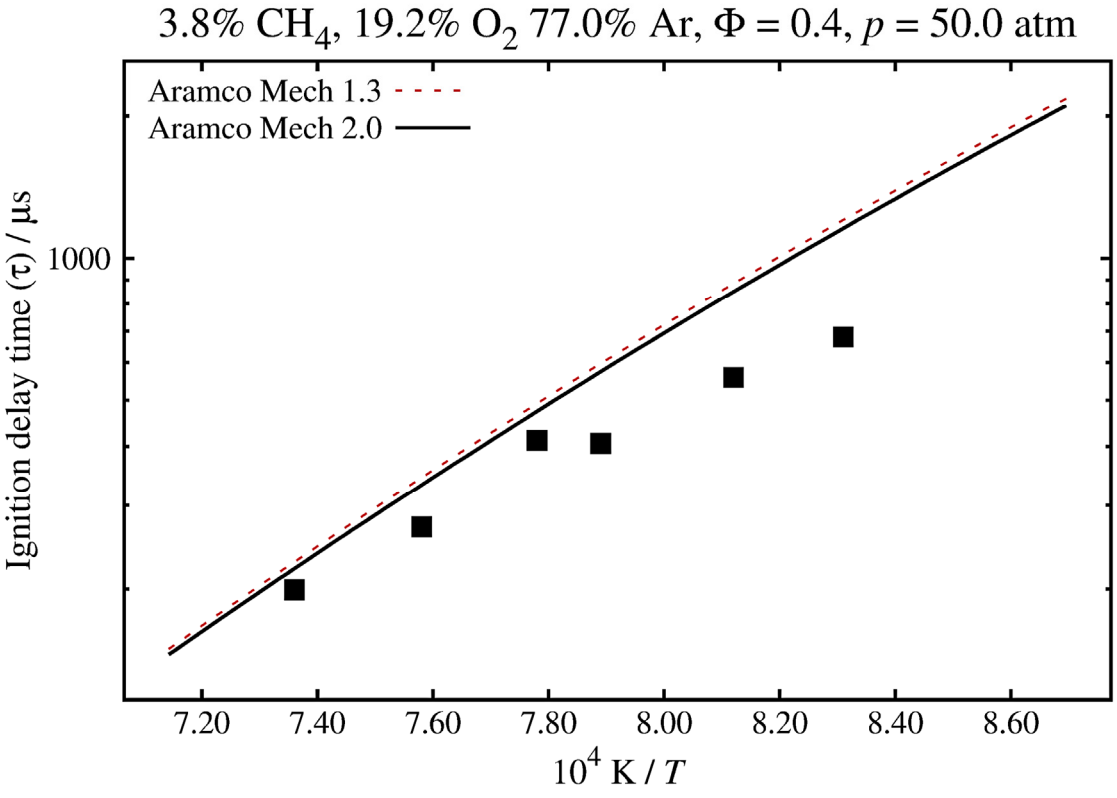
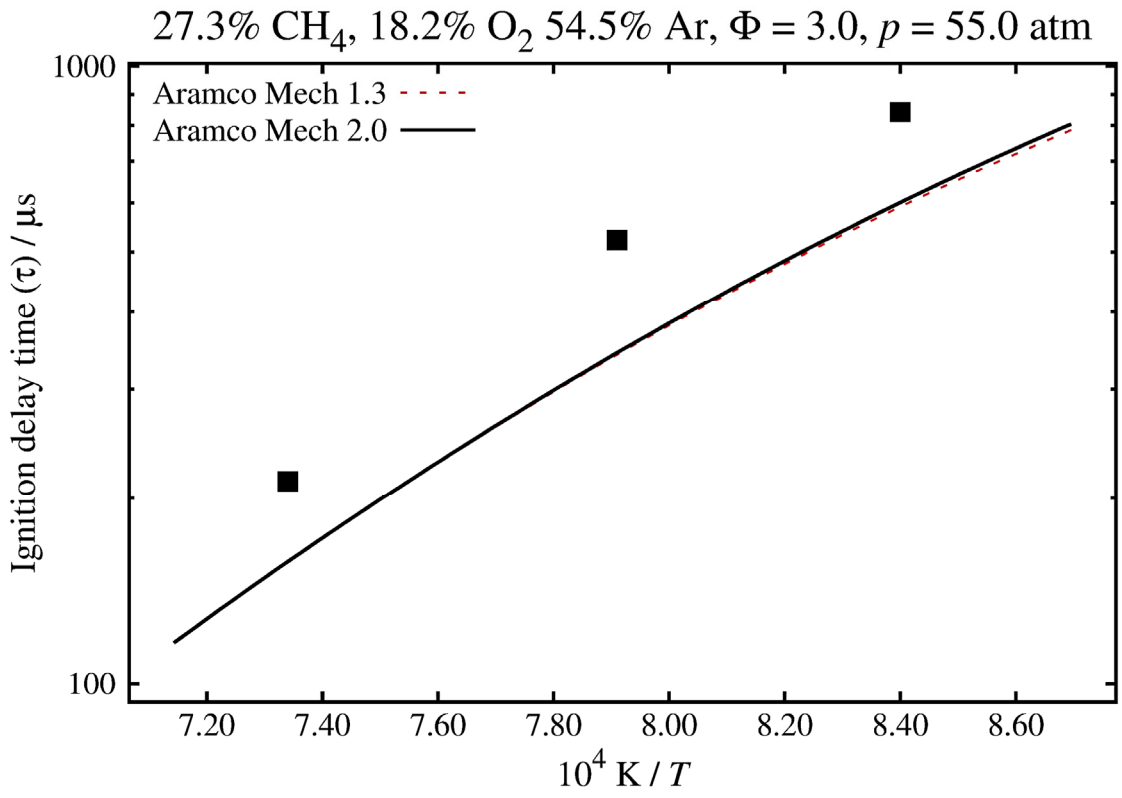
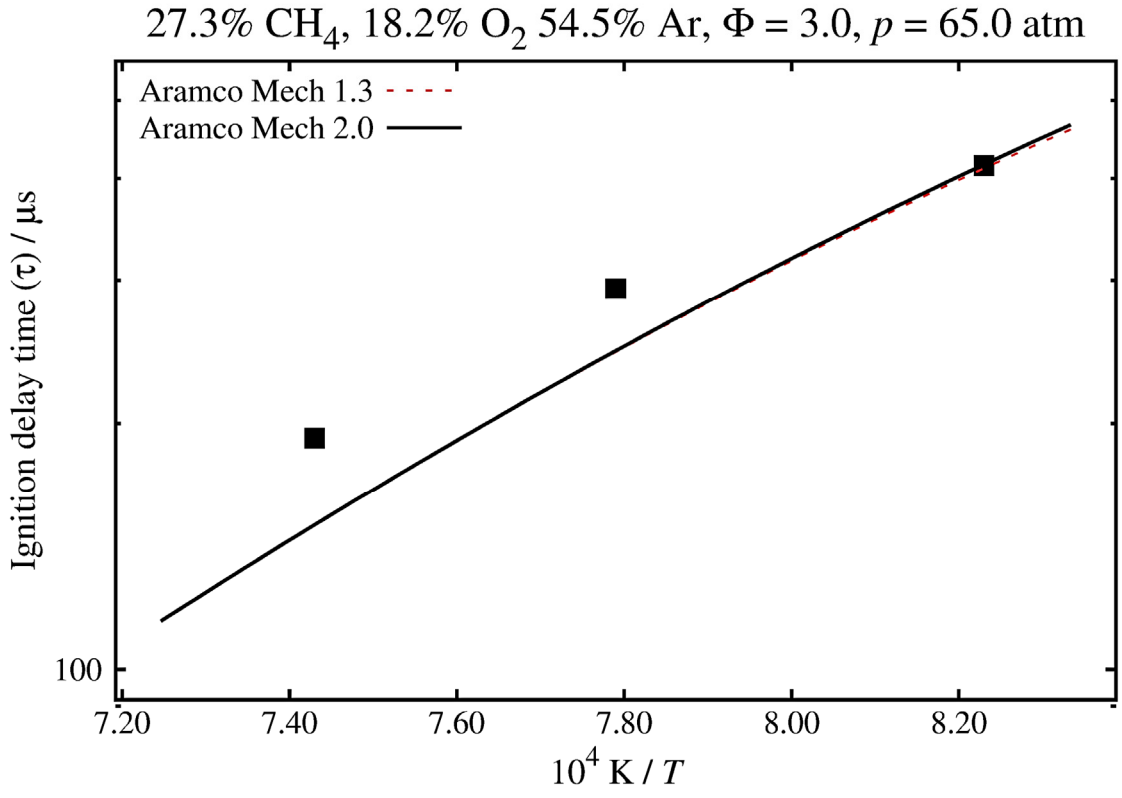
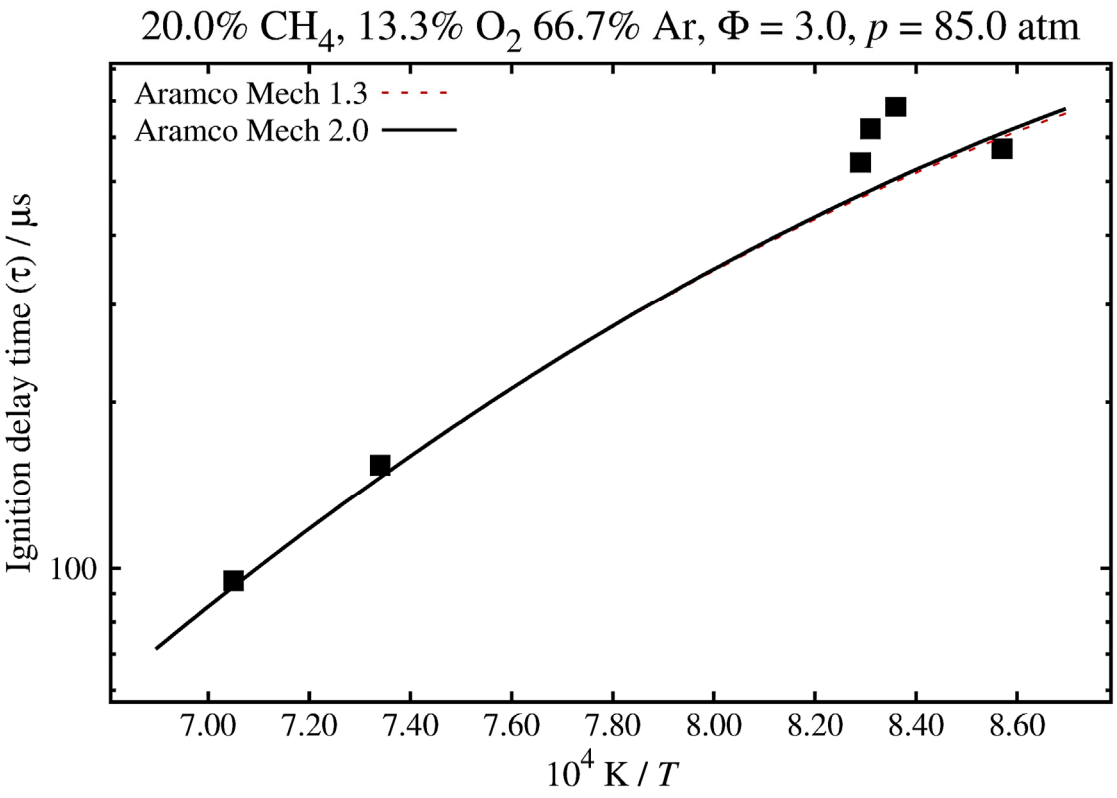
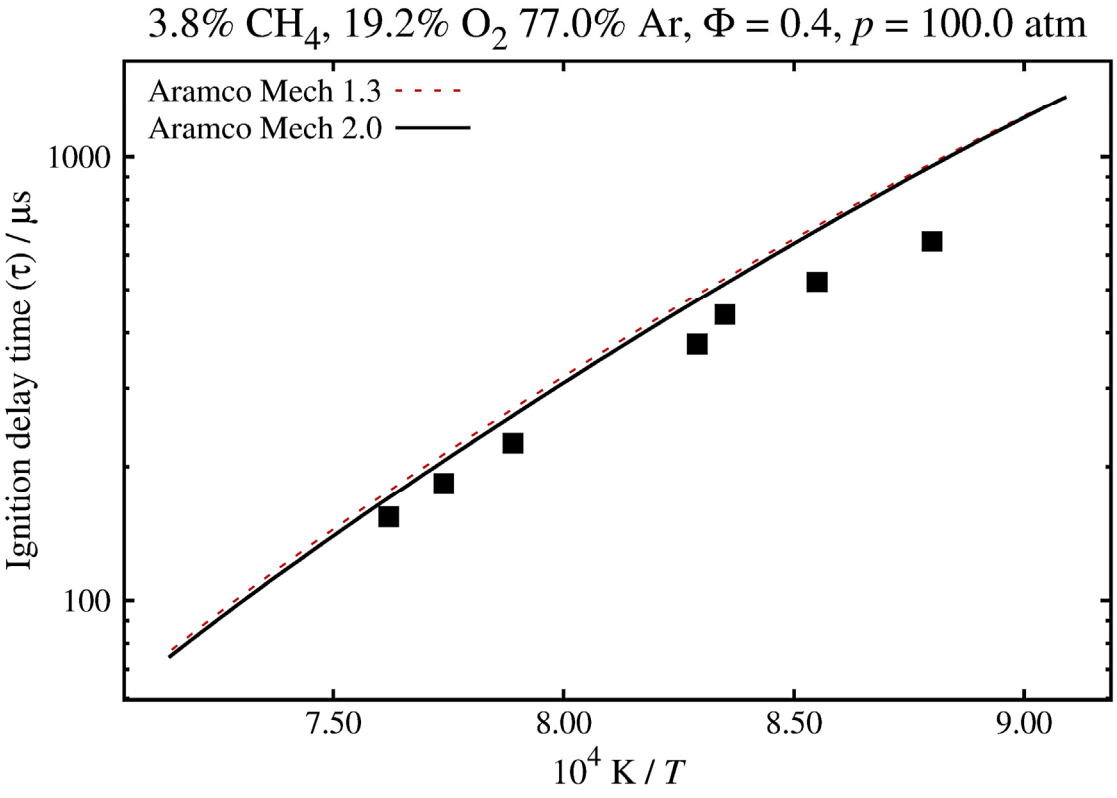

20.0% CH4, 13.3% O2 66.7% Ar, Φ = 3.0, p = 40.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / μs
100
6.40
6.60
6.80
7.00
7.20
7.40
7.60
10^4 K / T

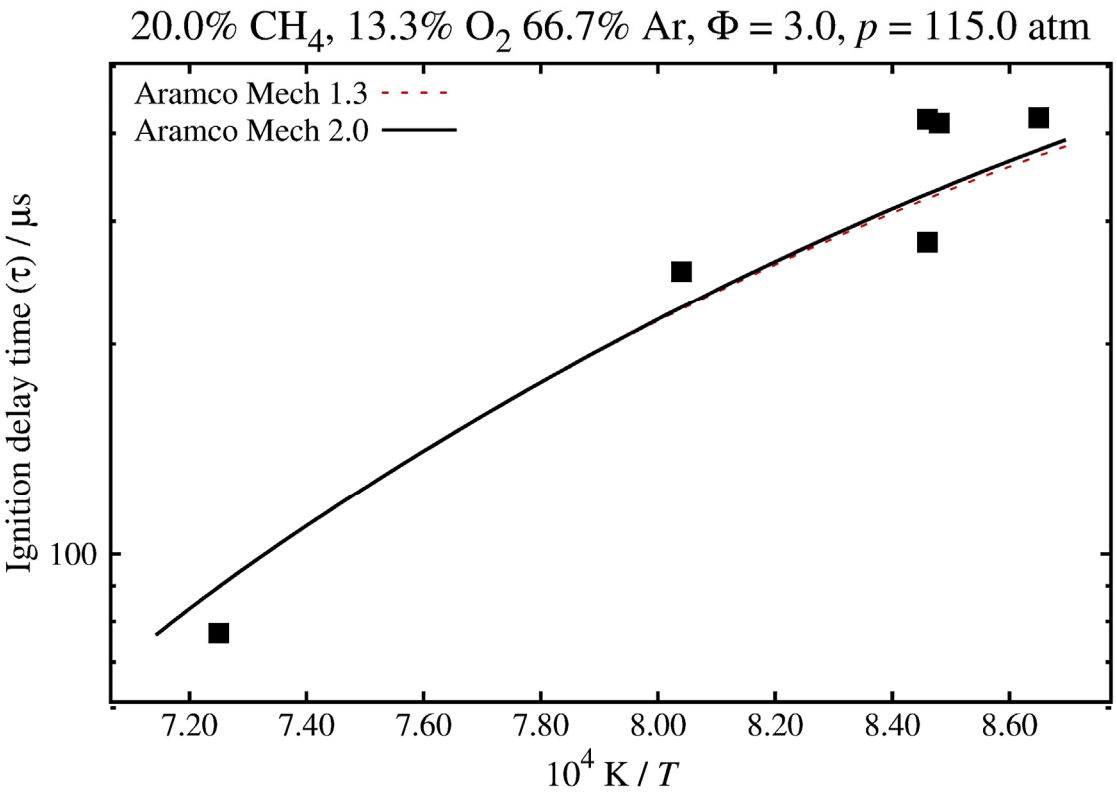

3.8% CH4, 19.2% O2 77.0% Ar, Φ = 0.4, p = 50.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / μs
1000
7.20
7.40
7.60
7.80
8.00
8.20
8.40
8.60
10^4 K / T

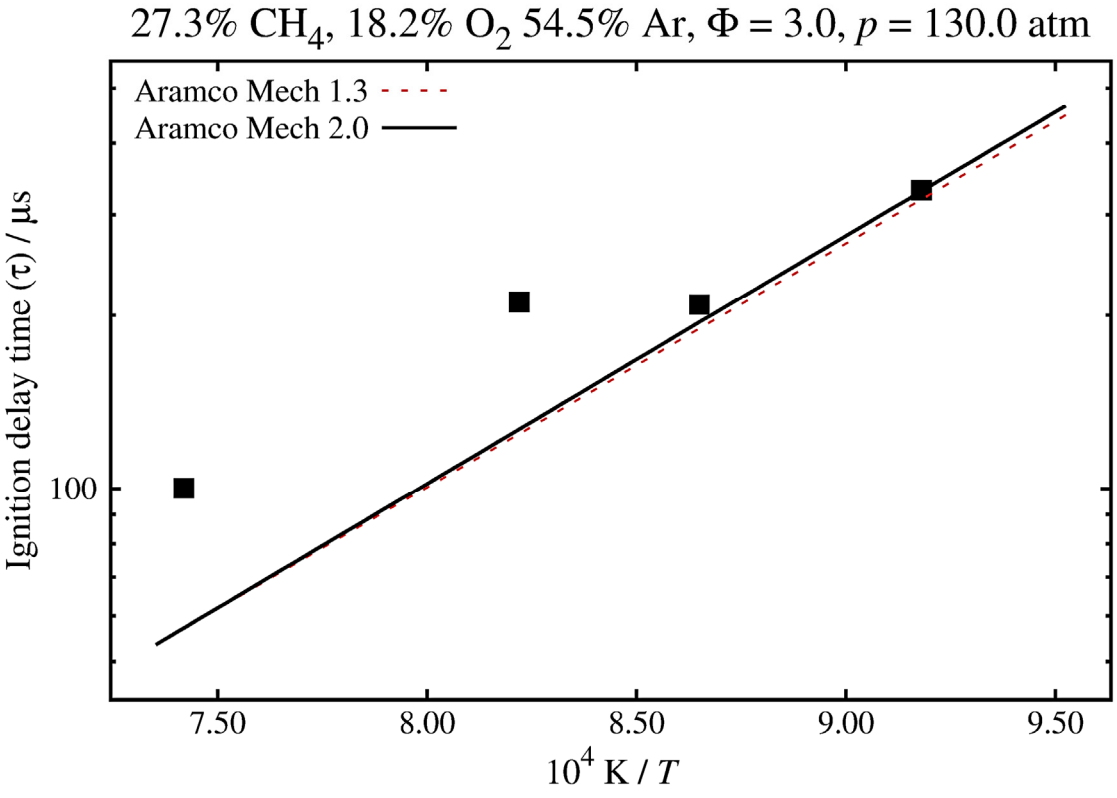

27.3% CH4, 18.2% O2 54.5% Ar, Φ = 3.0, p = 55.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / μs
1000
100
7.20
7.40
7.60
7.80
8.00
8.20
8.40
8.60
10^4 K / T

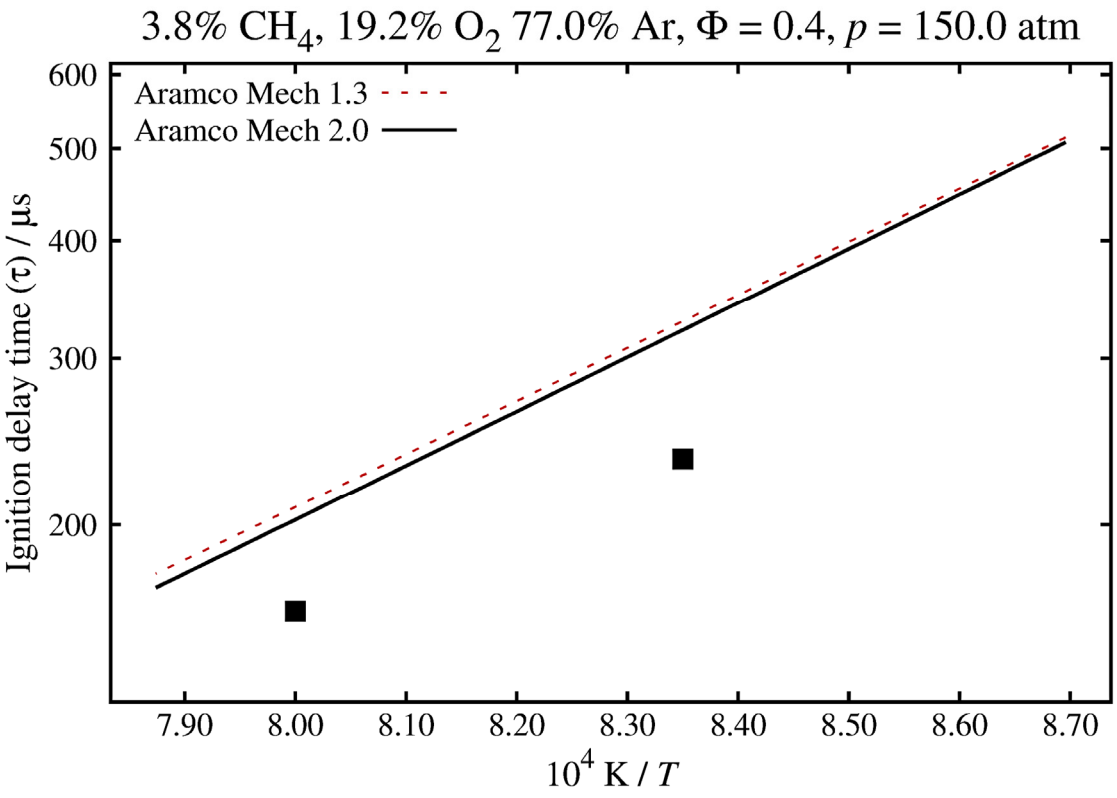

27.3% CH4, 18.2% O2 54.5% Ar, Φ = 3.0, p = 65.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / μs
100
7.20
7.40
7.60
7.80
8.00
8.20
10^4 K / T

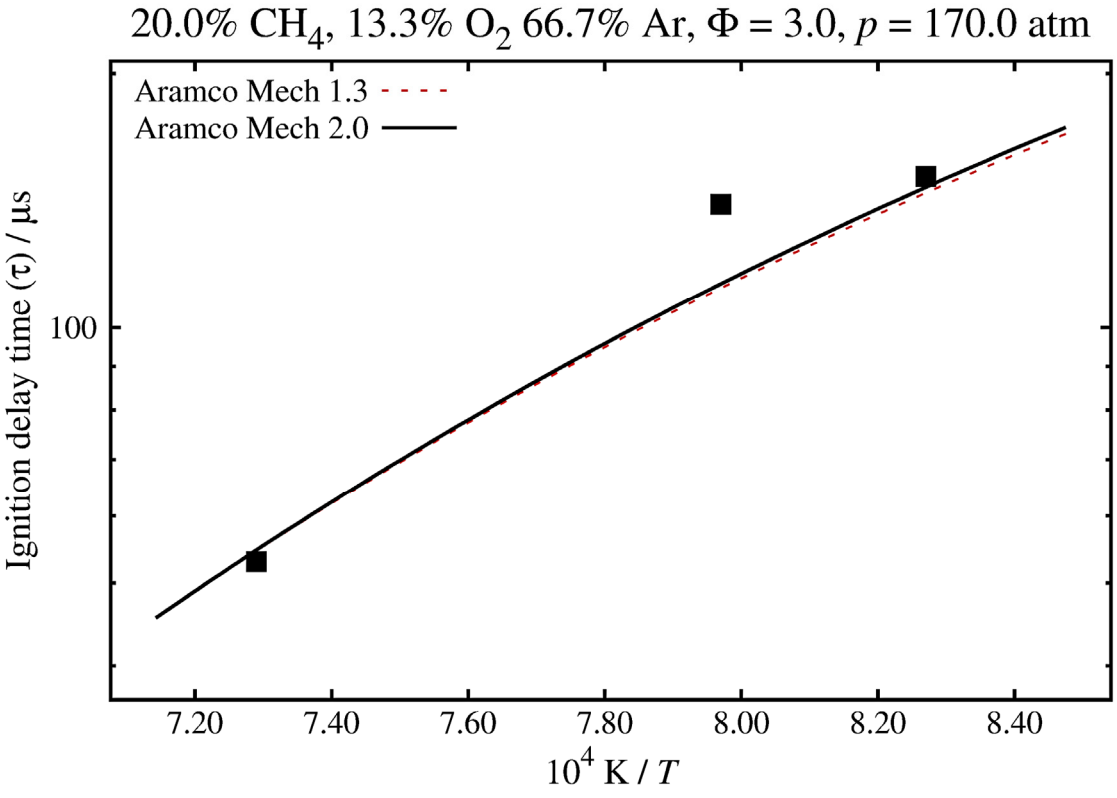

20.0% CH4, 13.3% O2 66.7% Ar, Φ = 3.0, p = 85.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / μs
100
7.00
7.20
7.40
7.60
7.80
8.00
8.20
8.40
8.60
10^4 K / T

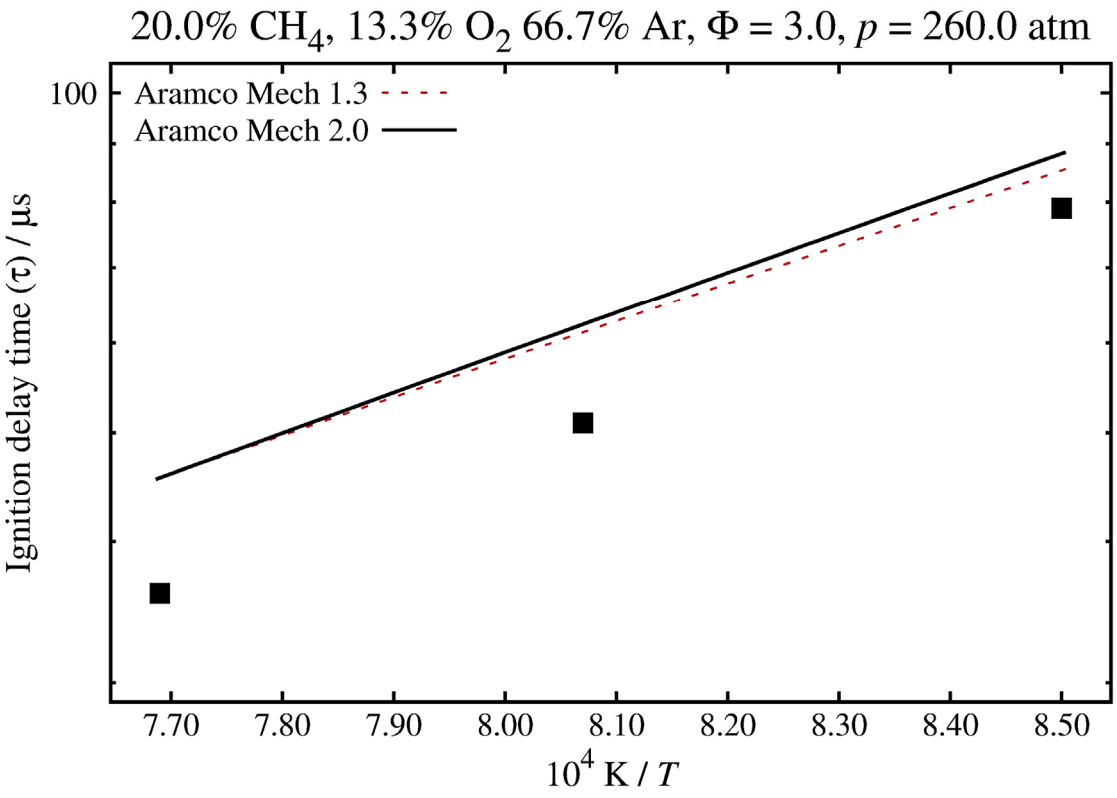

3.8% CH4, 19.2% O2 77.0% Ar, Φ = 0.4, p = 100.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / μs
1000
100
7.50
8.00
8.50
9.00
10^4 K / T

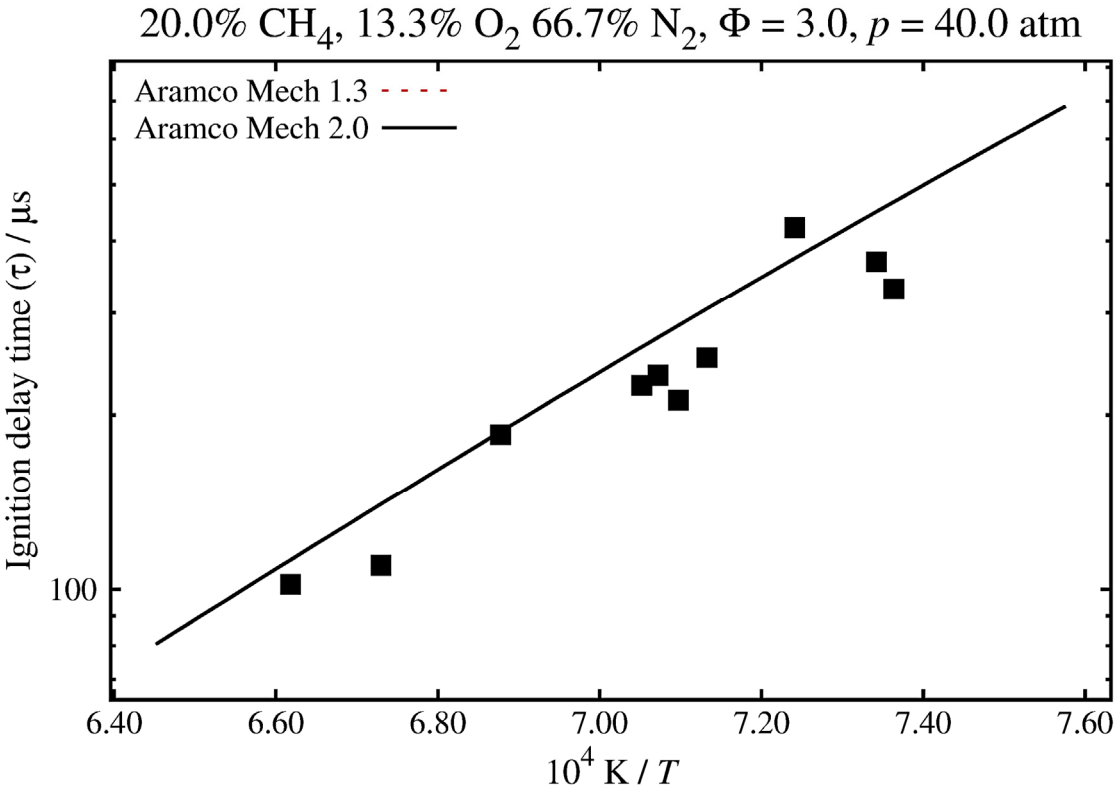

20.0% CH4, 13.3% O2 66.7% Ar, Φ = 3.0, p = 115.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / μs
100
7.20
7.40
7.60
7.80
8.00
8.20
8.40
8.60
10^4 K / T

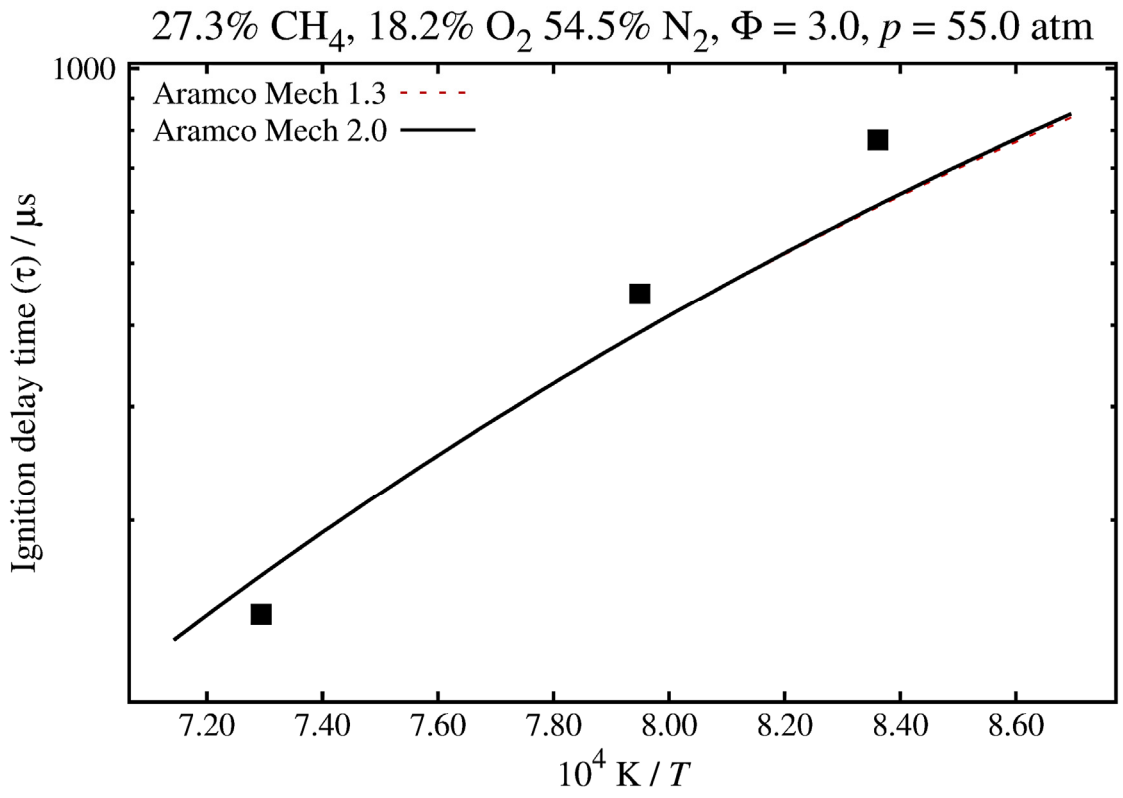

27.3% CH4, 18.2% O2 54.5% Ar, Φ = 3.0, p = 130.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / μs
100
7.50
8.00
8.50
9.00
9.50
10^4 K / T

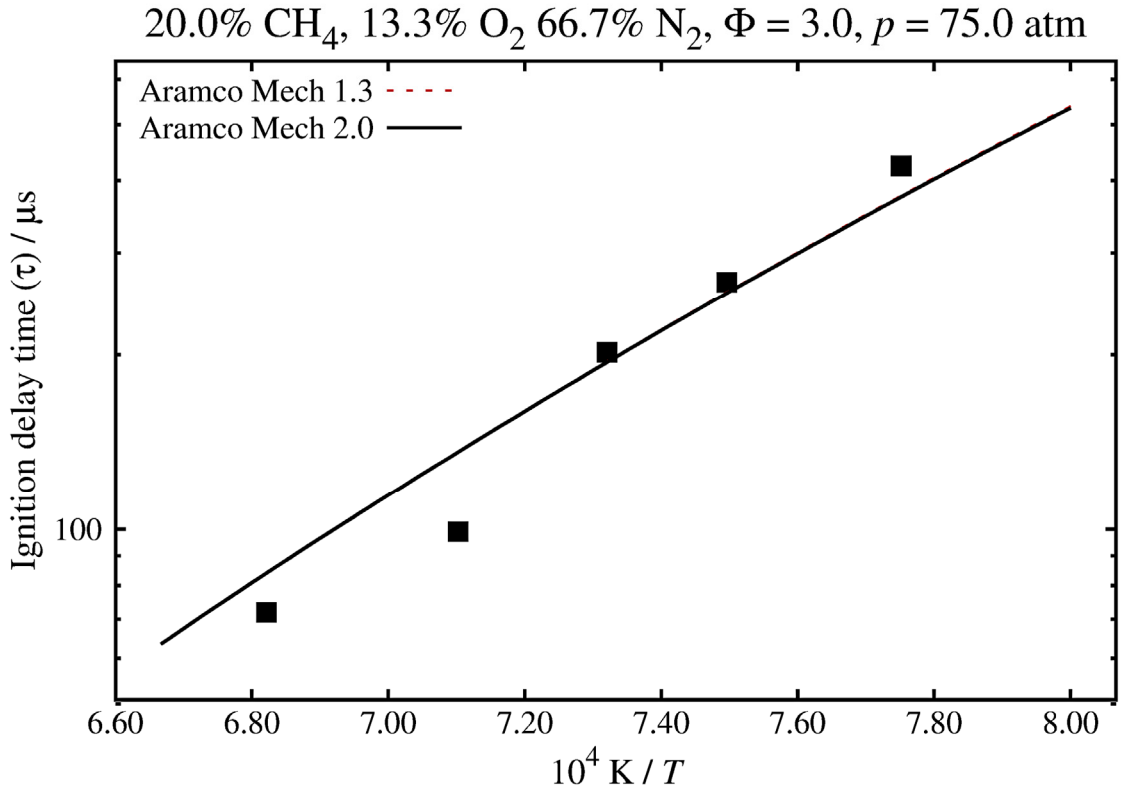

3.8% CH4, 19.2% O2 77.0% Ar, Φ = 0.4, p = 150.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / µs
600
500
400
300
200
7.90
8.00
8.10
8.20
8.30
8.40
8.50
8.60
8.70
10^4 K / T

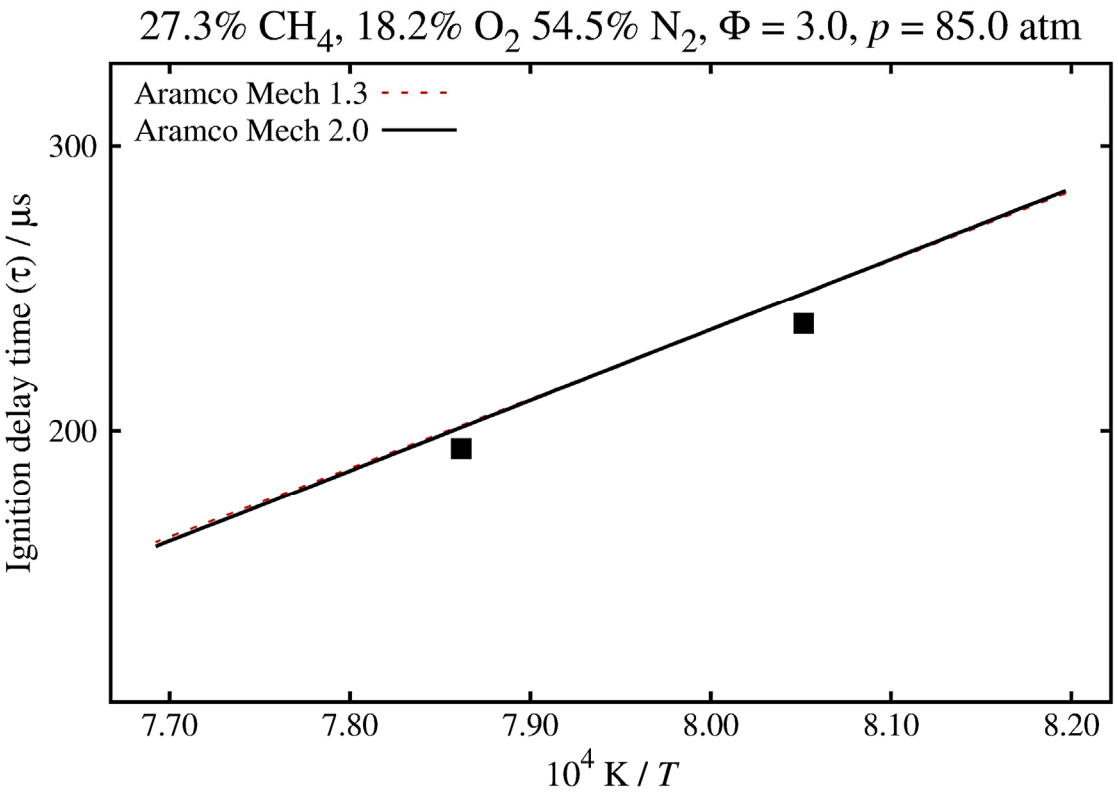

20.0% CH4, 13.3% O2 66.7% Ar, Φ = 3.0, p = 170.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / µs
100
7.20
7.40
7.60
7.80
8.00
8.20
8.40
10^4 K / T

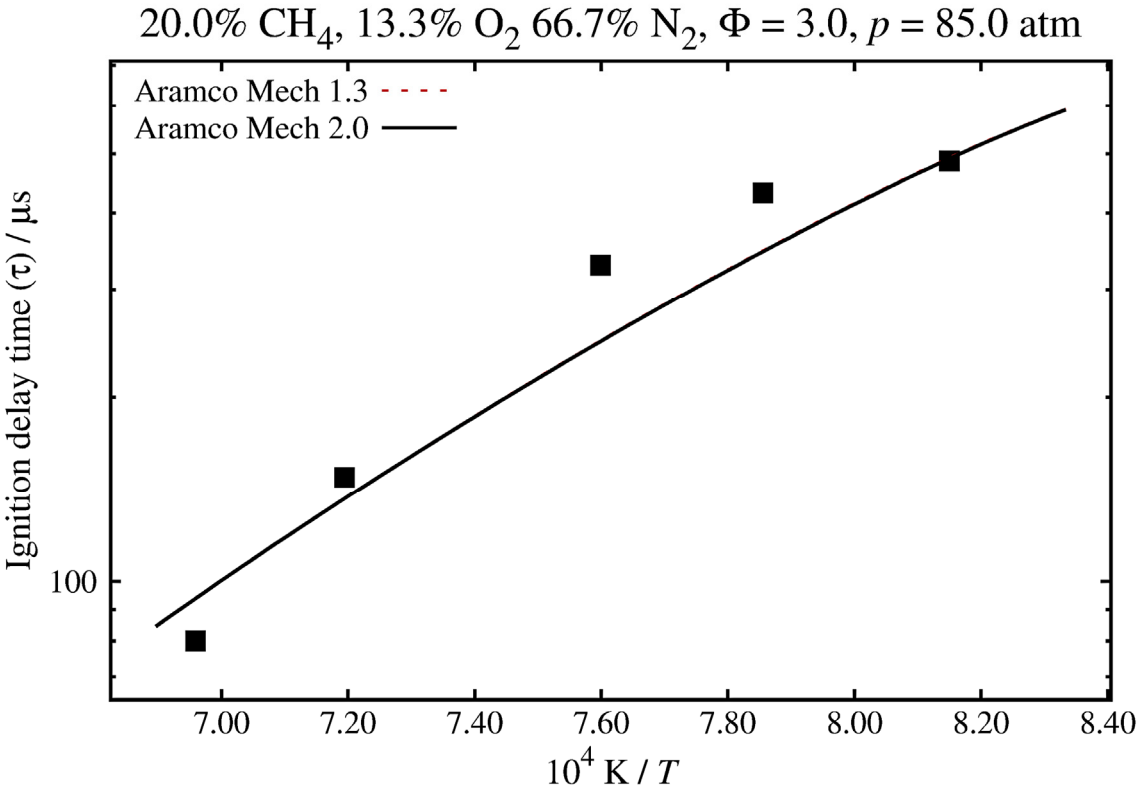

20.0% CH4, 13.3% O2 66.7% Ar, Φ = 3.0, p = 260.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
100
Ignition delay time (τ) / μs
7.70
7.80
7.90
8.00
8.10
8.20
8.30
8.40
8.50
10^4 K / T

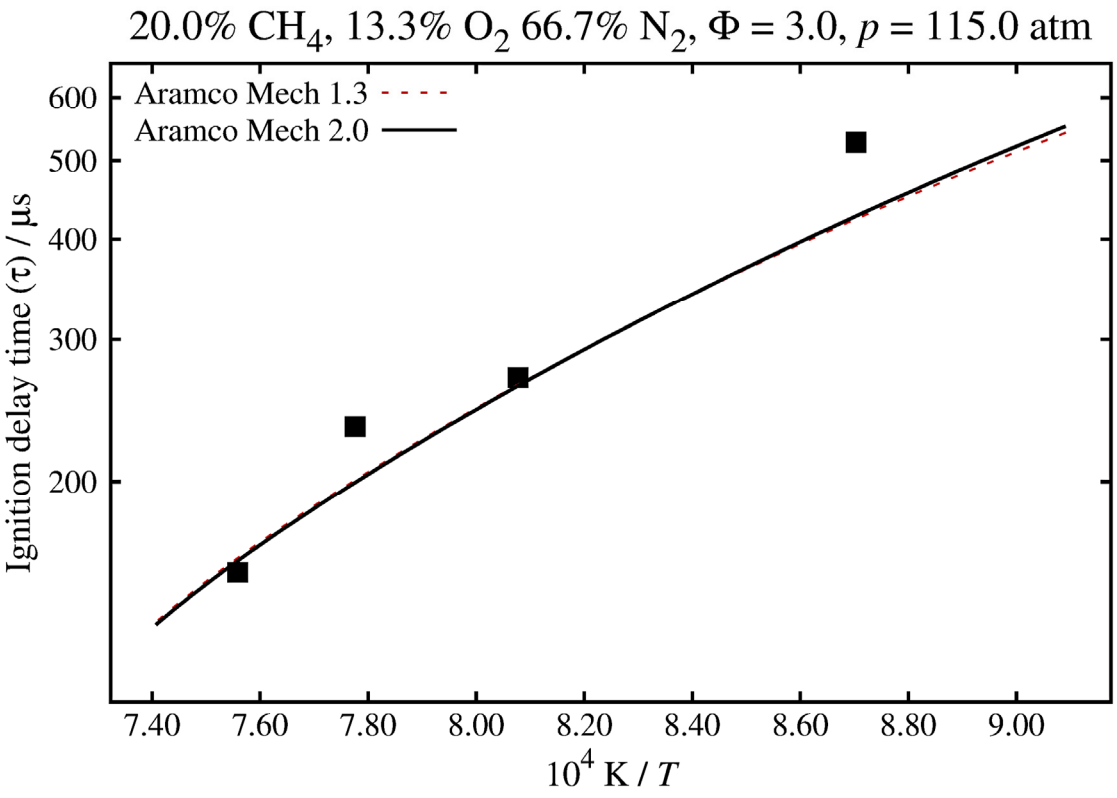

20.0% CH4, 13.3% O2 66.7% N2, Φ = 3.0, p = 40.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
100
Ignition delay time (τ) / μs
6.40
6.60
6.80
7.00
7.20
7.40
7.60
10^4 K / T

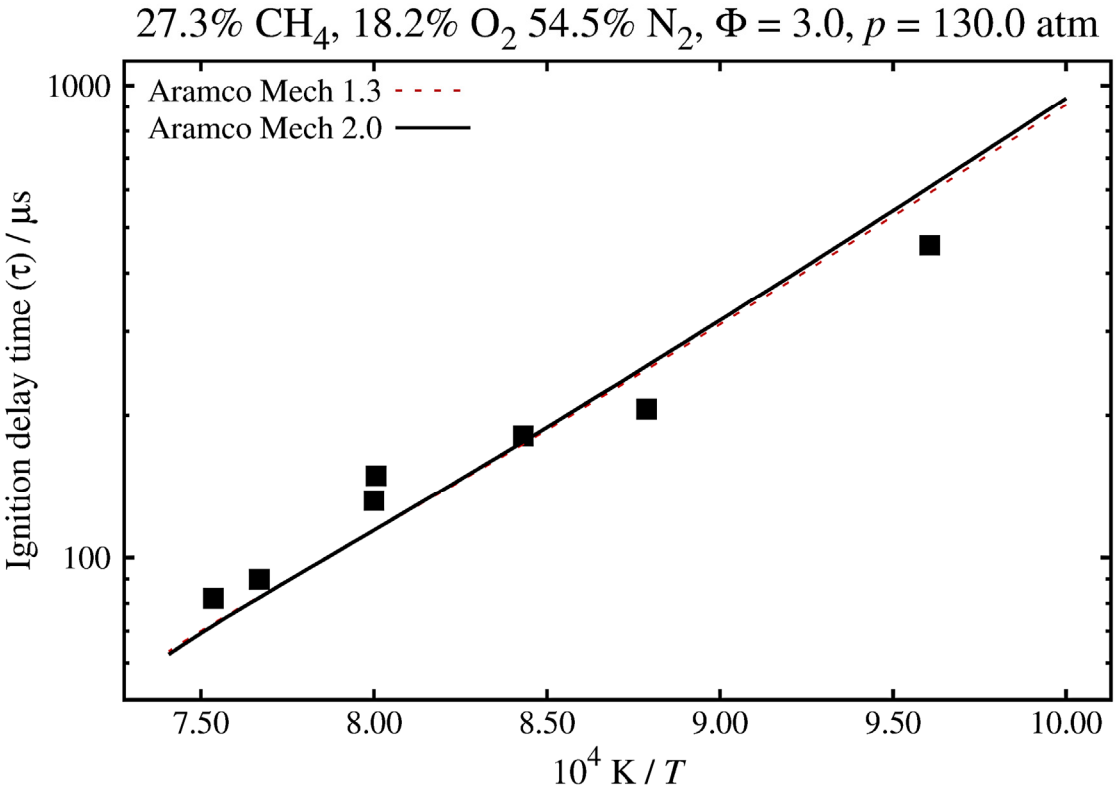

27.3% CH4, 18.2% O2 54.5% N2, Φ = 3.0, p = 55.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
1000
Ignition delay time (τ) / μs
7.20
7.40
7.60
7.80
8.00
8.20
8.40
8.60
10^4 K / T

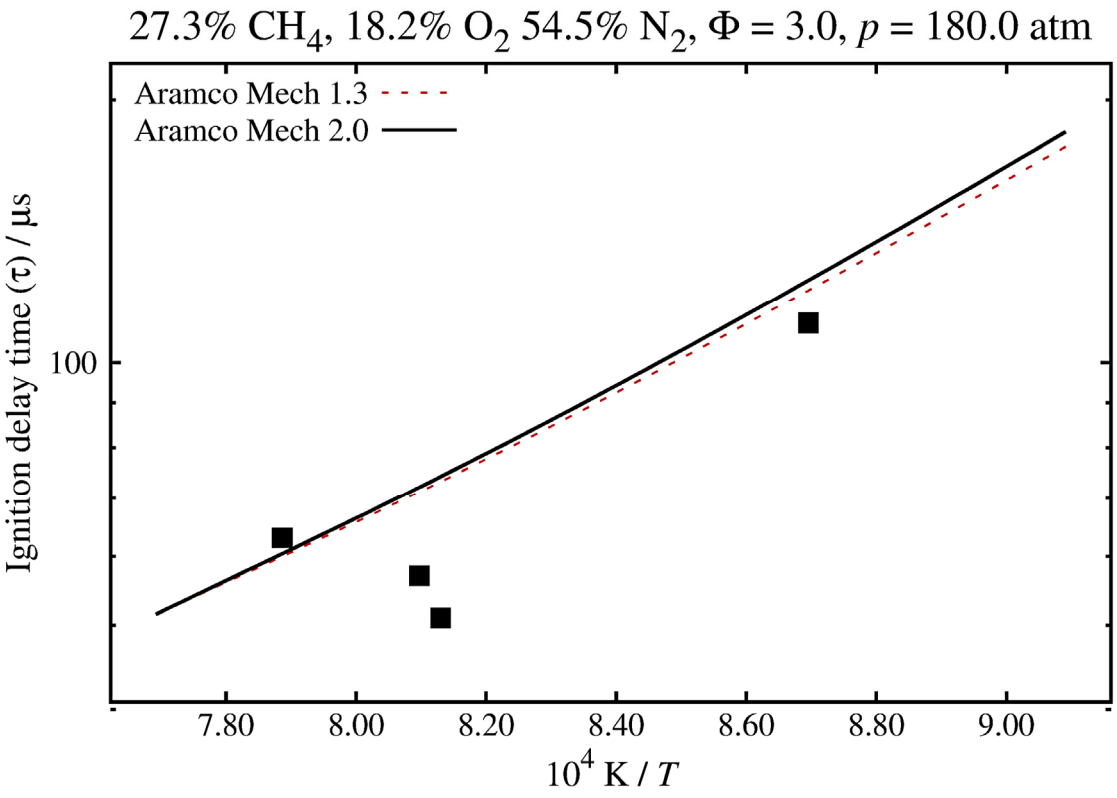

20.0% CH4, 13.3% O2 66.7% N2, Φ = 3.0, p = 75.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
100
Ignition delay time (τ) / μs
6.60
6.80
7.00
7.20
7.40
7.60
7.80
8.00
10^4 K / T

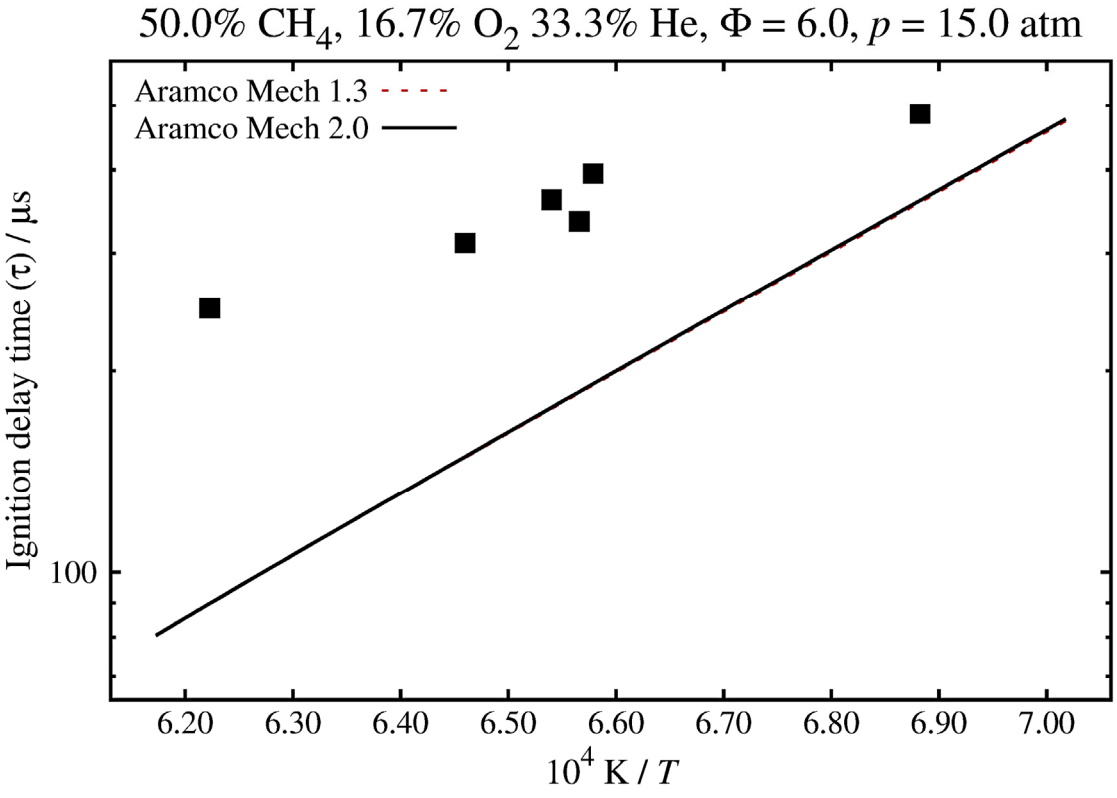

27.3% CH4, 18.2% O2 54.5% N2, Φ = 3.0, p = 85.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / μs
300
200
7.70
7.80
7.90
8.00
8.10
8.20
10^4 K / T

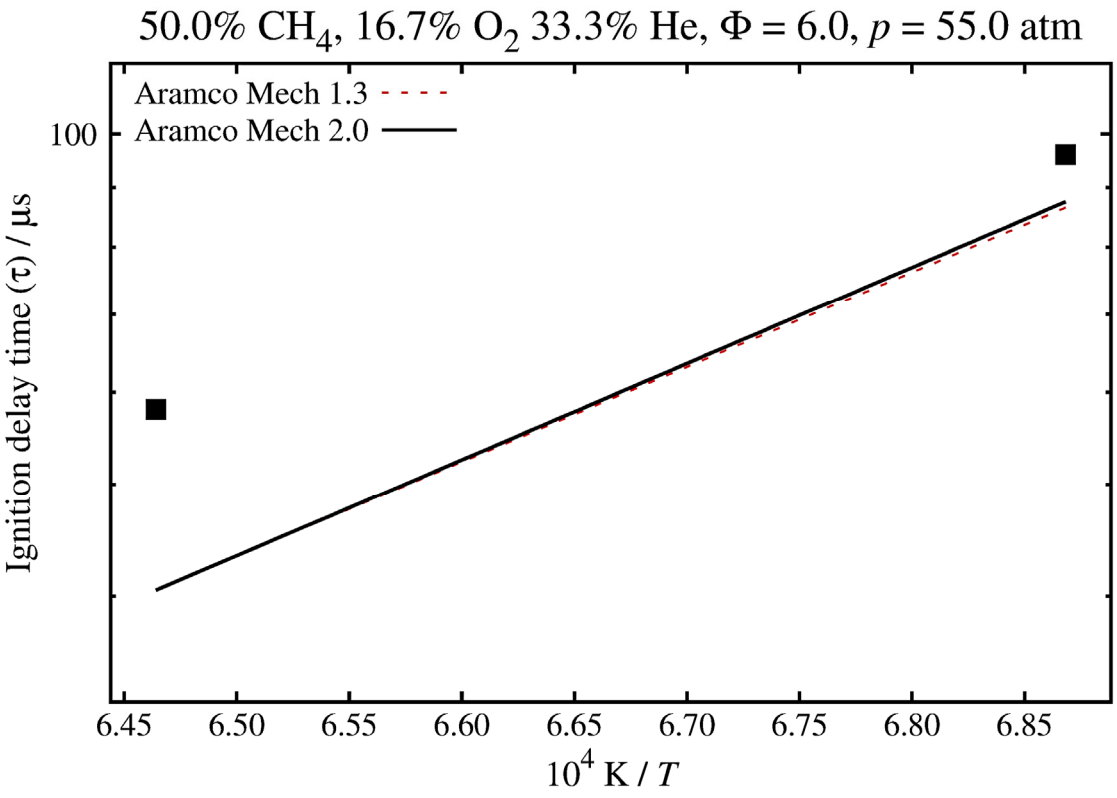

20.0% CH4, 13.3% O2 66.7% N2, Φ = 3.0, p = 85.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / μs
100
7.00
7.20
7.40
7.60
7.80
8.00
8.20
8.40
10^4 K / T

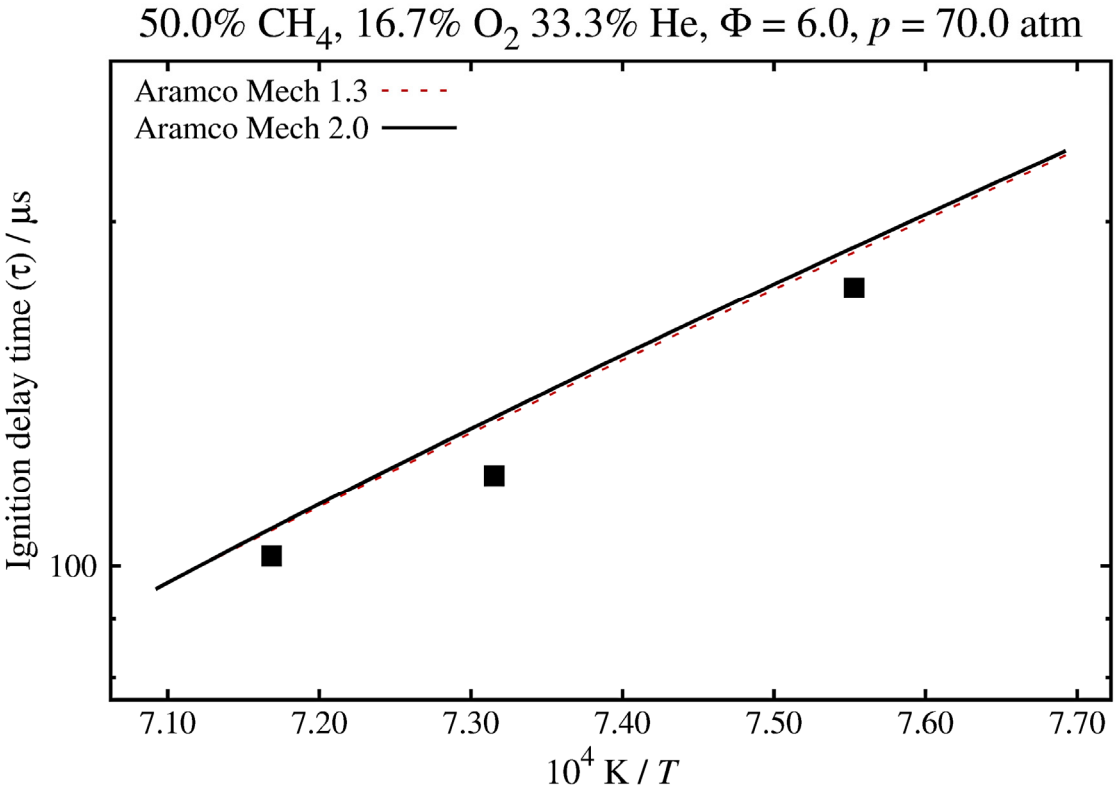

20.0% CH4, 13.3% O2 66.7% N2, Φ = 3.0, p = 115.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / μs
600
500
400
300
200
7.40
7.60
7.80
8.00
8.20
8.40
8.60
8.80
9.00
10^4 K / T

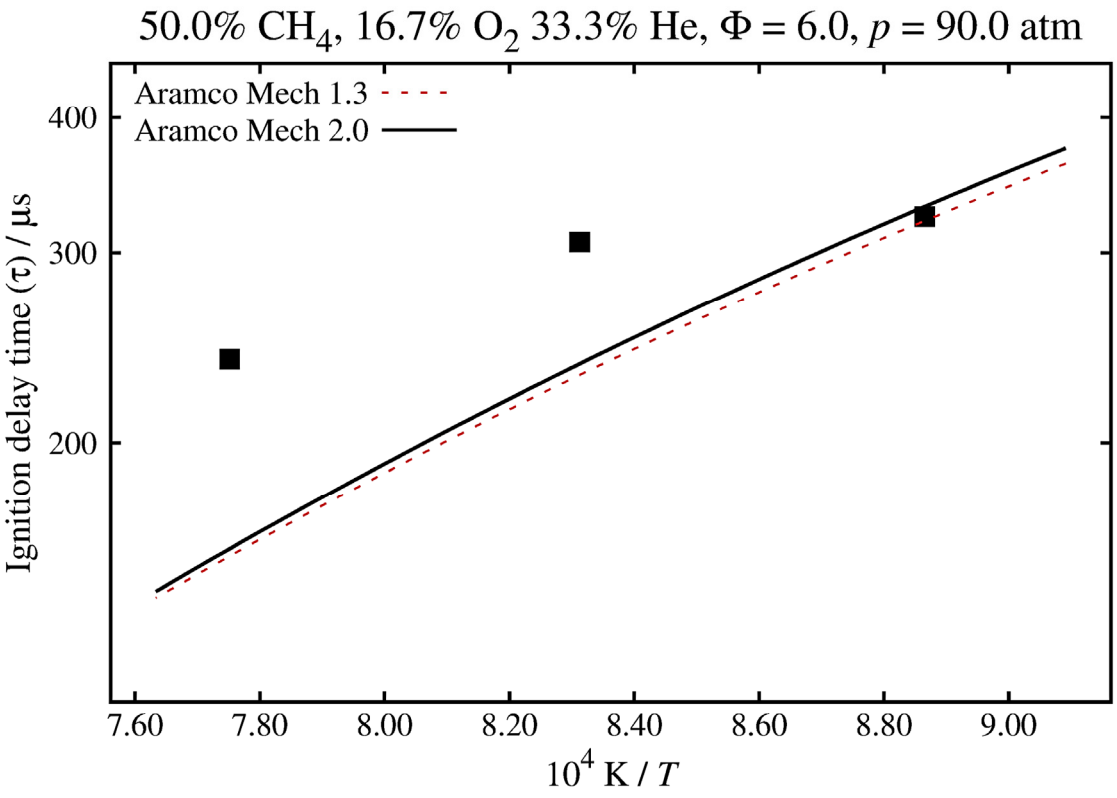

27.3% CH4, 18.2% O2 54.5% N2, Φ = 3.0, p = 130.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / μs
1000
100
7.50
8.00
8.50
9.00
9.50
10.00
10^4 K / T


27.3% CH4, 18.2% O2 54.5% N2, Φ = 3.0, p = 180.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / μs
100
7.80
8.00
8.20
8.40
8.60
8.80
9.00
10^4 K / T


50.0% CH4, 16.7% O2 33.3% He, Φ = 6.0, p = 15.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / μs
100
6.20
6.30
6.40
6.50
6.60
6.70
6.80
6.90
7.00
10^4 K / T


50.0% CH4, 16.7% O2 33.3% He, Φ = 6.0, p = 55.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
100
Ignition delay time (τ) / μs
6.45
6.50
6.55
6.60
6.65
6.70
6.75
6.80
6.85
10^4 K / T


50.0% CH4, 16.7% O2 33.3% He, Φ = 6.0, p = 70.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
100
Ignition delay time (τ) / μs
7.10
7.20
7.30
7.40
7.50
7.60
7.70
10^4 K / T


50.0% CH4, 16.7% O2 33.3% He, Φ = 6.0, p = 90.0 atm
Aramco Mech 1.3
Aramco Mech 2.0
Ignition delay time (τ) / μs
400
300
200
7.60
7.80
8.00
8.20
8.40
8.60
8.80
9.00
10^4 K / T