Figure 1

1700 ppm C$_2$H$_4$ in N$_2$, $\Phi = 0.5$, $p = 1.0$ atm, $\tau = 0.12$ s

1700 ppm C$_2$H$_4$ in N$_2$, $\Phi = 0.5$, $p = 1.0$ atm, $\tau = 0.12$ s
1700 ppm C\textsubscript{2}H\textsubscript{4} in N\textsubscript{2}, Φ = 0.5, \( p = 1.0 \) atm, \( τ = 0.12 \) s

![Graph](image_url)

1700 ppm C\textsubscript{2}H\textsubscript{4} in N\textsubscript{2}, Φ = 0.5, \( p = 1.0 \) atm, \( τ = 0.12 \) s

![Graph](image_url)
Figure 2

1700 ppm C₂H₄ in N₂, Φ = 1.0, p = 1.0 atm, τ = 0.12 s

![Graph showing mole fraction vs. temperature for C₂H₂ and other mechanisms.]

1700 ppm C₂H₄ in N₂, Φ = 1.0, p = 1.0 atm, τ = 0.12 s

![Graph showing mole fraction vs. temperature for C₂H₄ and other mechanisms.]

- C₂H₂
- AramcoMech 1.0
- GRI 3.0
- Leeds
- MFC_C4
- Ranzi 1201
- San Diego
- USC II
1700 ppm C$_2$H$_4$ in N$_2$, $\Phi = 1.0$, $p = 1.0$ atm, $\tau = 0.12$ s

![Graph showing mole fraction vs. temperature for CH4, AramcoMech 1.0, GRI 3.0, Leeds, MFC_C4, Ranzi 1201, San Diego, USC II.](image1)

1700 ppm C$_2$H$_4$ in N$_2$, $\Phi = 1.0$, $p = 1.0$ atm, $\tau = 0.12$ s

![Graph showing mole fraction vs. temperature for CO, AramcoMech 1.0, GRI 3.0, Leeds, MFC_C4, Ranzi 1201, San Diego, USC II.](image2)
1700 ppm C\textsubscript{2}H\textsubscript{4} in \textsubscript{N}_2, \Phi = 1.0, p = 1.0 \text{ atm}, \tau = 0.12 \text{ s}
Figure 3

1700 ppm C$_2$H$_4$ in N$_2$, $\Phi = 2.0$, $p = 1.0$ atm, $\tau = 0.12$ s

C$_2$H$_2$  ■  AramcoMech 1.0  - - - - - -
GRI 3.0  - - - - - - - - - - - - - - - - - - - -
Leeds  ---
MFC_C4  ---
Ranzi 1201  ---
San Diego  ---
USC II  ---

1700 ppm C$_2$H$_4$ in N$_2$, $\Phi = 2.0$, $p = 1.0$ atm, $\tau = 0.12$ s

C$_2$H$_4$  ■  AramcoMech 1.0  - - - - - -
GRI 3.0  - - - - - - - - - - - - - - - - - - - -
Leeds  ---
MFC_C4  ---
Ranzi 1201  ---
San Diego  ---
USC II  ---
1700 ppm C$_2$H$_4$ in N$_2$, $\Phi = 2.0$, $p = 1.0$ atm, $\tau = 0.12$ s

![Graph showing mole fraction of CH$_2$O and CH$_4$ over temperature for two different experiments.](image1)

1700 ppm C$_2$H$_4$ in N$_2$, $\Phi = 2.0$, $p = 1.0$ atm, $\tau = 0.12$ s

![Graph showing mole fraction of CH$_2$O and CH$_4$ over temperature for two different experiments.](image2)
1700 ppm C$_2$H$_4$ in N$_2$, $\Phi = 2.0$, $p = 1.0$ atm, $\tau = 0.12$ s

[Graph showing mole fraction vs. temperature for different mechanisms]

1700 ppm C$_2$H$_4$ in N$_2$, $\Phi = 2.0$, $p = 1.0$ atm, $\tau = 0.12$ s

[Graph showing mole fraction vs. temperature for different mechanisms]