Ignition characteristics of dual-fuel methane-n-hexane-oxygen-diluent mixtures in a rapid compression machine and a shock tube

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The present supplemental material shows additional experimental and numerical results of ignition delay time in the RCM and shock tube.
Additional experimental and numerical results in RCM

(a) CH₄ + 10% N₂O (Mix 1) 1 MPa
(b) CH₄ + 10% N₂O (Mix 1) 2 MPa

Temperature (K)
Ignition Delay Time (ms)
Relative Error (%)
Figure 1: Additional comparisons between the experimental and numerical first-stage and total ignition delay time in RCM.
Additional experimental and numerical results in shock tube

Figure 2: Comparisons between the experimental and numerical ignition delay time based on CO_2* emissions for lean CH_3-C_6H_14-O_2-diluent mixtures.
Figure 3: Comparisons between the experimental and numerical ignition delay time based on CO$_2^*$ emissions for stoichiometric CH$_4$-C$_6$H$_{14}$-O$_2$-diluent mixtures.
Figure 4: Comparisons between the experimental and numerical ignition delay time based on CO$_2^*$ emissions for rich CH$_4$-$C_6$H$_{14}$-O$_2$-diluent mixtures.
Figure 5: Comparisons between the experimental and numerical ignition delay time based on CH* emissions for lean CH$_4$-C$_6$H$_{14}$-O$_2$-diluent mixtures.
Figure 6: Comparisons between the experimental and numerical ignition delay time based on CH* emissions for stoichiometric CH$_4$-C$_6$H$_{14}$-O$_2$-diluent mixtures.
Figure 7: Comparisons between the experimental and numerical ignition delay time based on CH* emissions for rich CH$_4$-C$_6$H$_{14}$-O$_2$-diluent mixtures.