High Pressure Ignition Chemistry of Alternative Fuels

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Abstract

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High Pressure Ignition Chemistry of Alternative Fuels

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So long, and thanks for all the fish.

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Chapter 1

Introduction

This is the start of the introduction. [1–3]. Sarathy, Park, Weber, Wang, Veloo, Davis, et al. [4] found that blah.

Bibliography

[1] Weber, B. W., Kumar, K., Zhang, Y., and Sung, C.-J. *Combust. Flame*, vol. 158, no. 5 (Mar. 2011), pp. 809–819. DOI: 10.1016/j.combustflame.2011.02.005.

[2] Weber, B. W. and Sung, C.-J. *Energy Fuels*, vol. 27, no. 3 (Mar. 2013), pp. 1688–1698. DOI: 10.1021/ef302195c.

[3] Tsujimura, T., Pitz, W. J., Gillespie, F., Curran, H. J., Weber, B. W., Zhang, Y., et al. *Energy Fuels*, vol. 26, no. 8 (Aug. 2012), pp. 4871–4886. DOI: 10.1021/ef300879k.

[4] Sarathy, S. M., Park, S., Weber, B. W., Wang, W., Veloo, P. S., Davis, A. C., et al. *Combust. Flame*, vol. 160, no. 12 (Dec. 2013), pp. 2712–2728. DOI: 10.1016/j.combustflame.2013.06.022.