Sustainable Energy & Fuels

Electronic Supplementary Information (ESI)

Greener aromatic antioxidants for aviation and beyond

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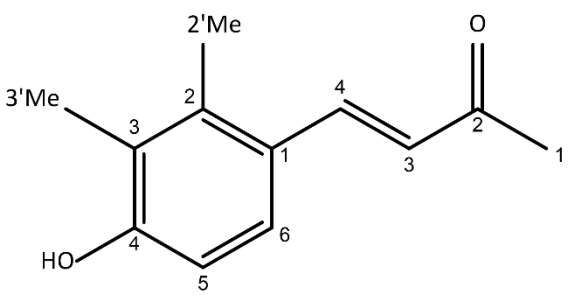
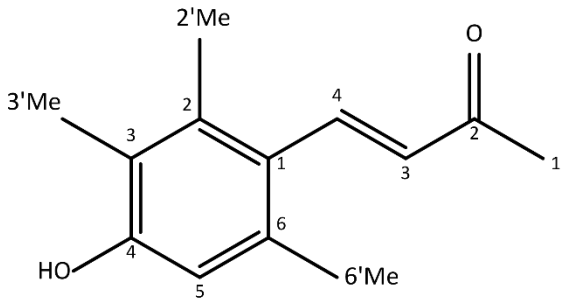
^{1}H and ^{13}C -NMR spectra of SXLC and DHIRC



(*E*)-4-(4-hydroxy-2,3-dimethylphenyl)but-3-en-2-one

"SXLC"



(*E*)-4-(4-hydroxy-2,3,6-trimethylphenyl)but-3-en-2-one

"DHIRC"

Fig. S1 Chemical structures and IUPAC names of the synthesized compounds.

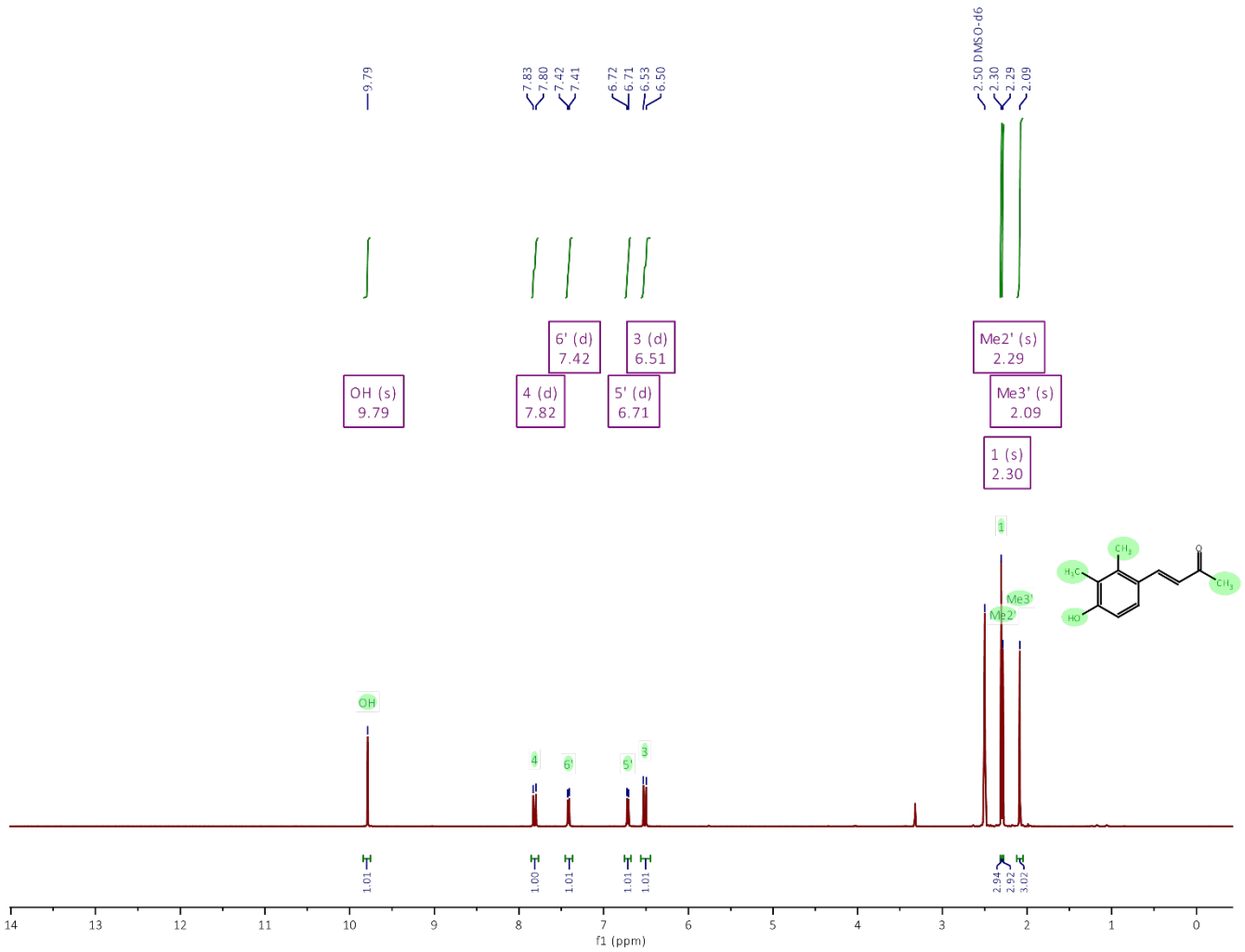


Fig. S2 ^{1}H-NMR - **SXLC**

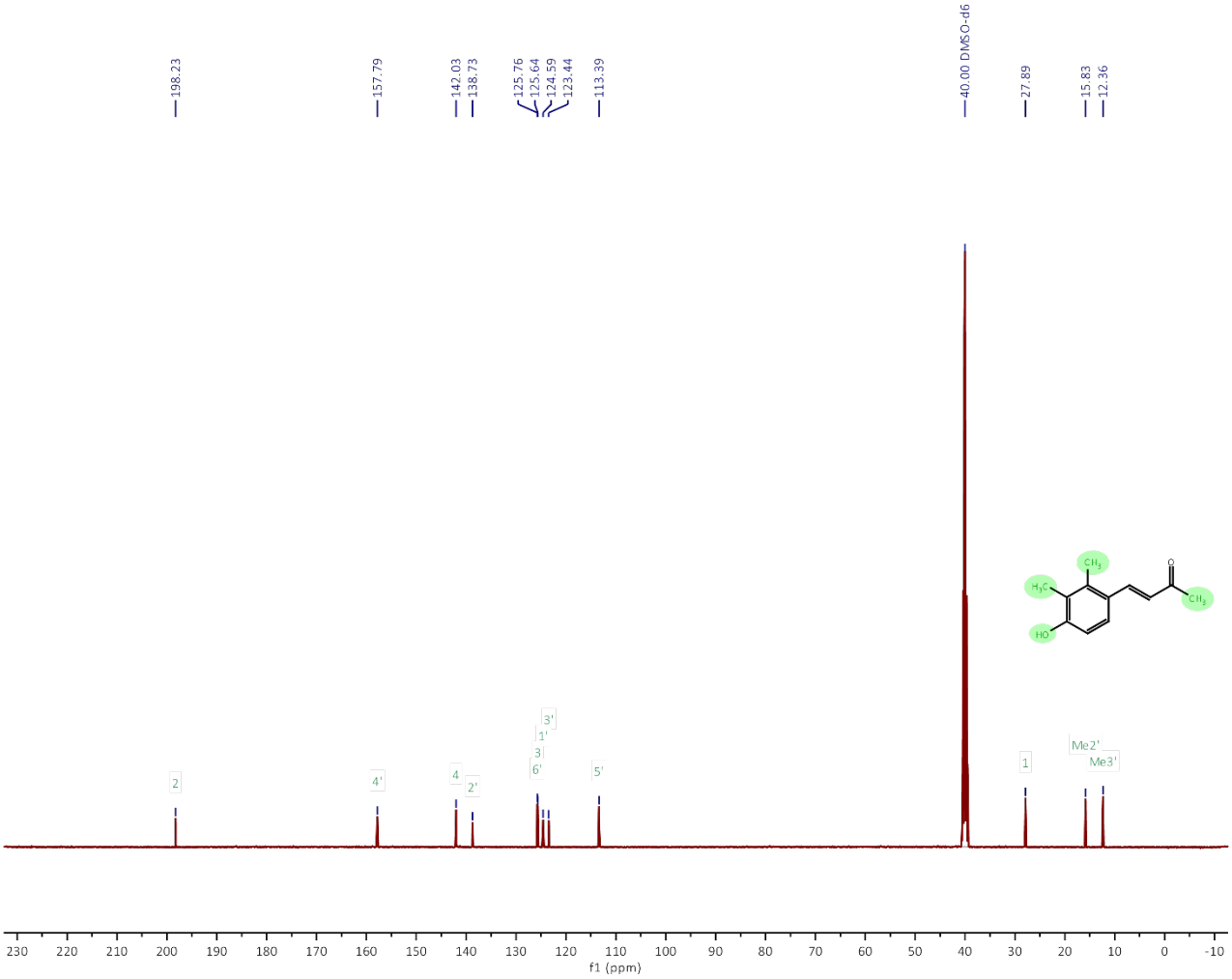


Fig. S3 ^{13}C-NMR - **SXLC**

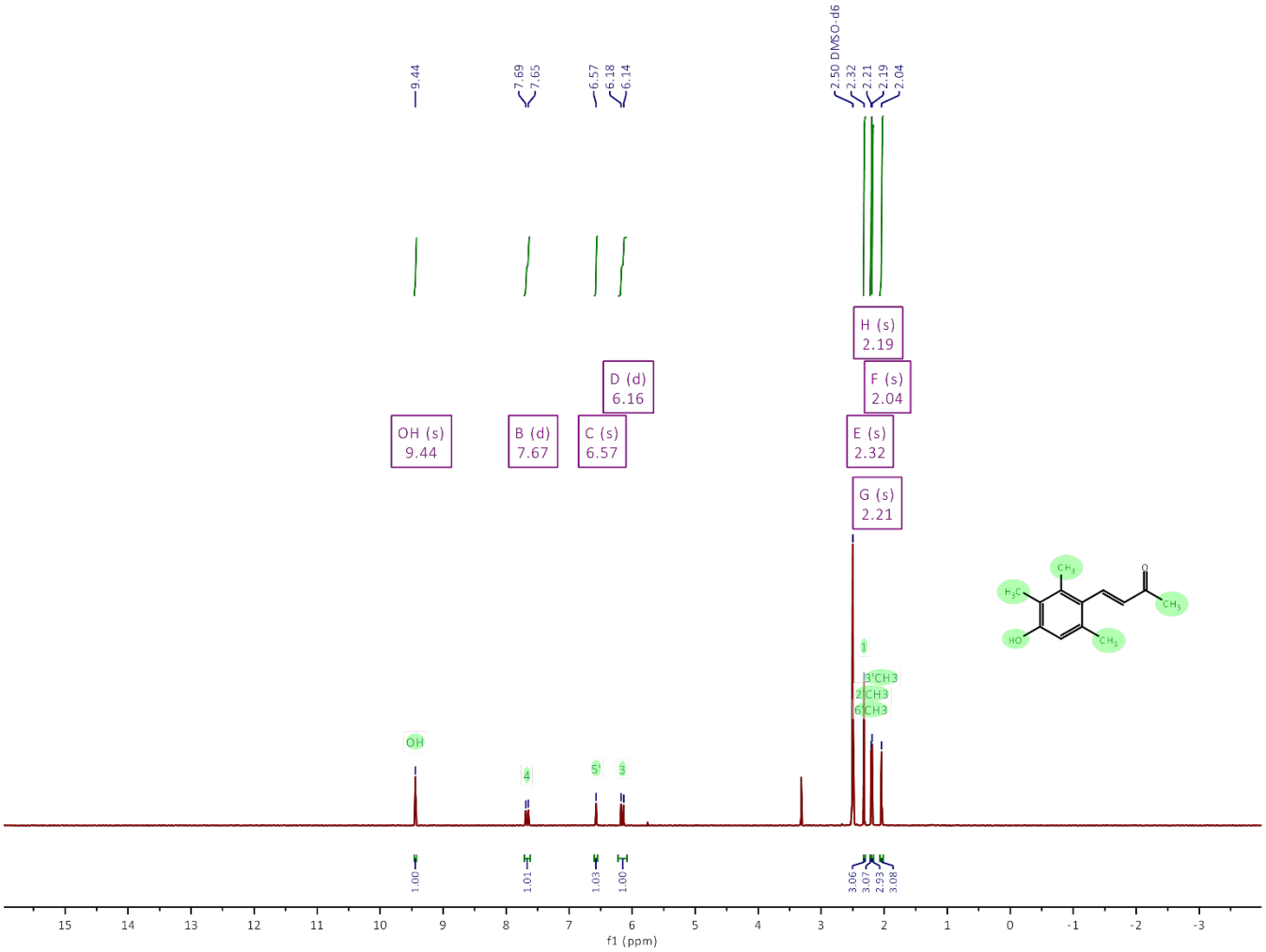


Fig. S4 ^{1}H-NMR - **DHIRC**

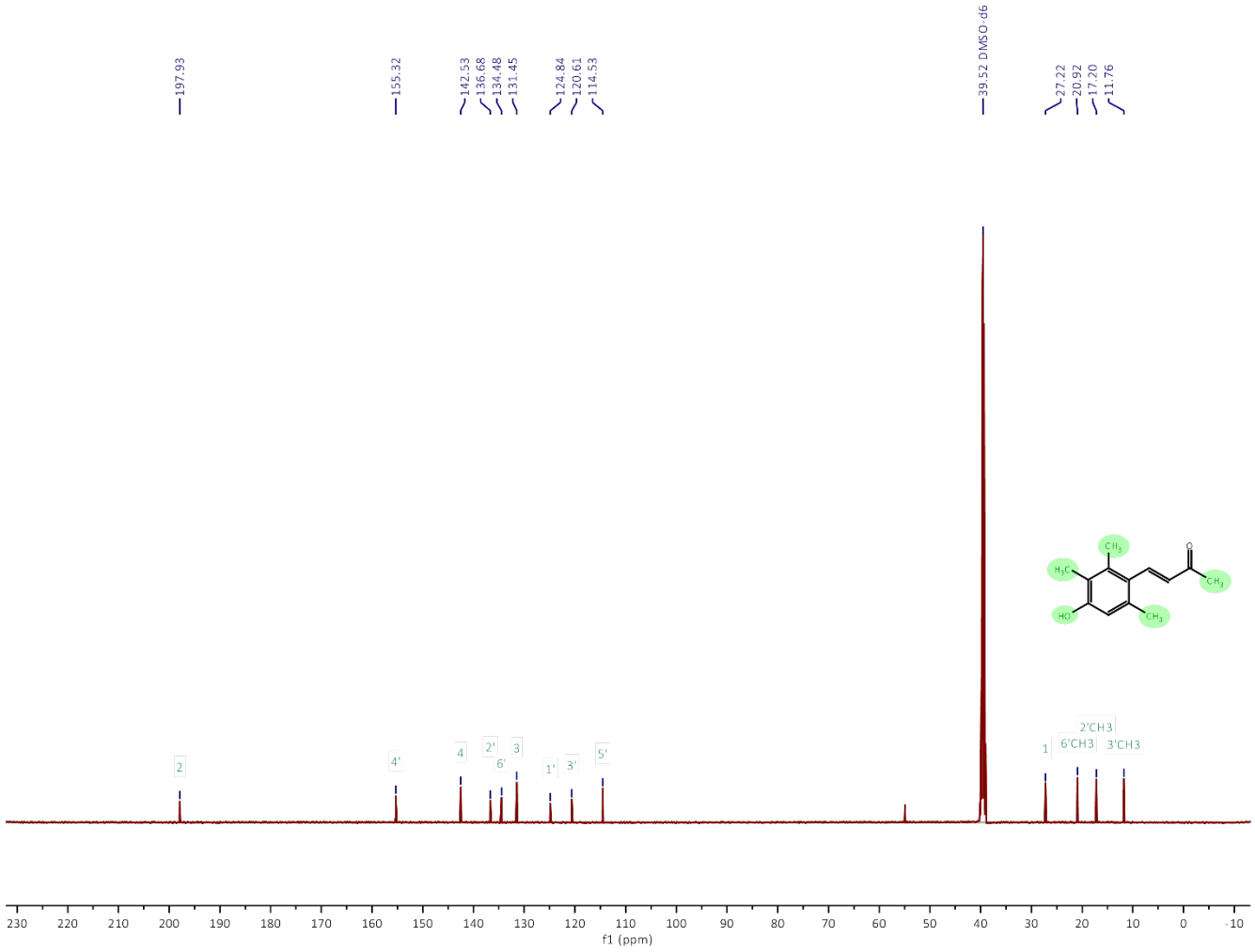


Fig. S5 ^{13}C-NMR - **DHIRC**

Images of additional combustion experiments at droplet channel test rig.

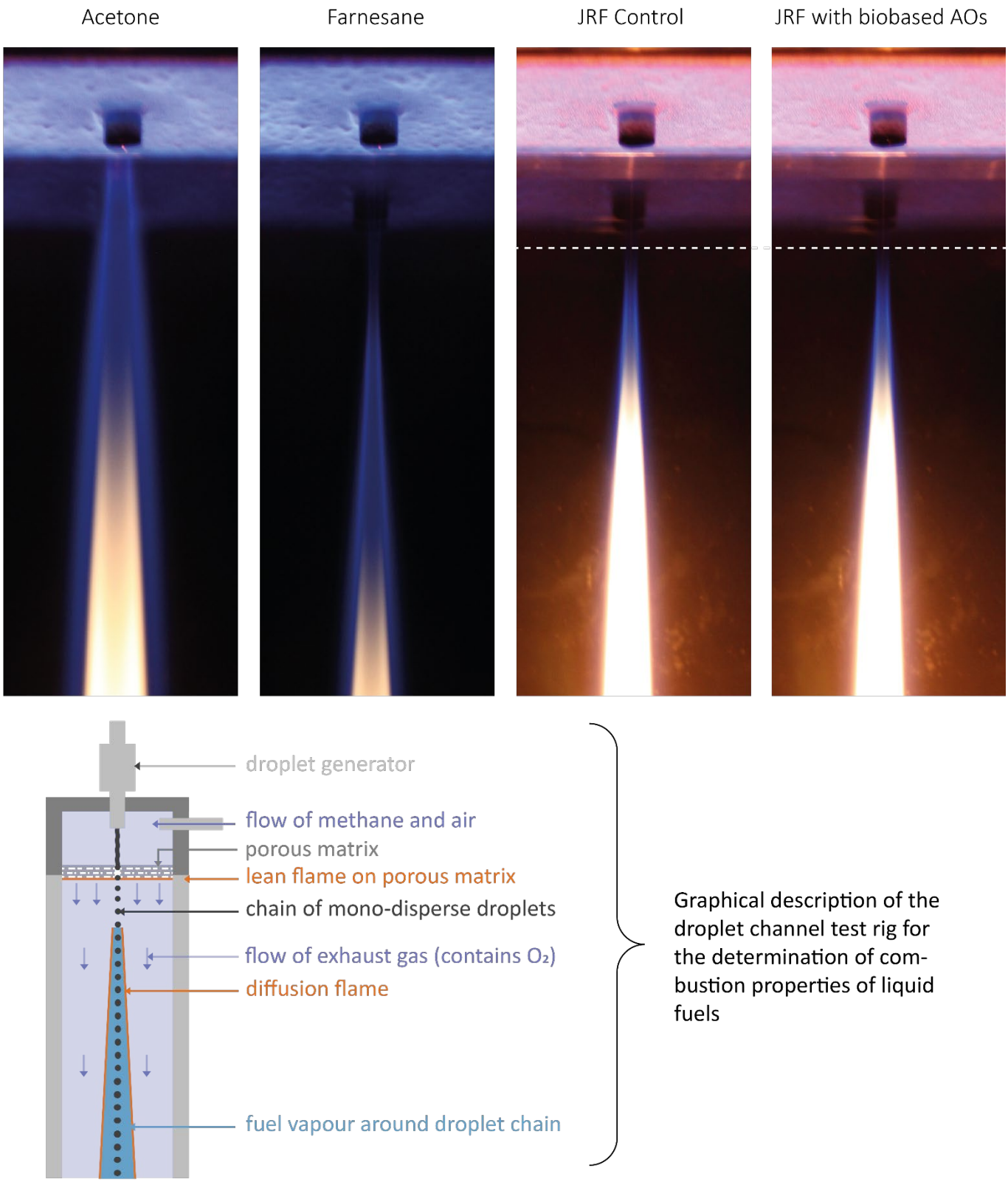


Fig. S6 Combustion experiments with droplet channel test. Images characterise evaporation and combustion properties of liquid fuels. Large differences can be observed, e.g., between farnesane and acetone. No appreciable effects of studied biobased antioxidant on evaporation and combustion of jet reference fuel blends (JRF) were detected.

Absorption curves of ABTS and DPPH assays at various concentrations.

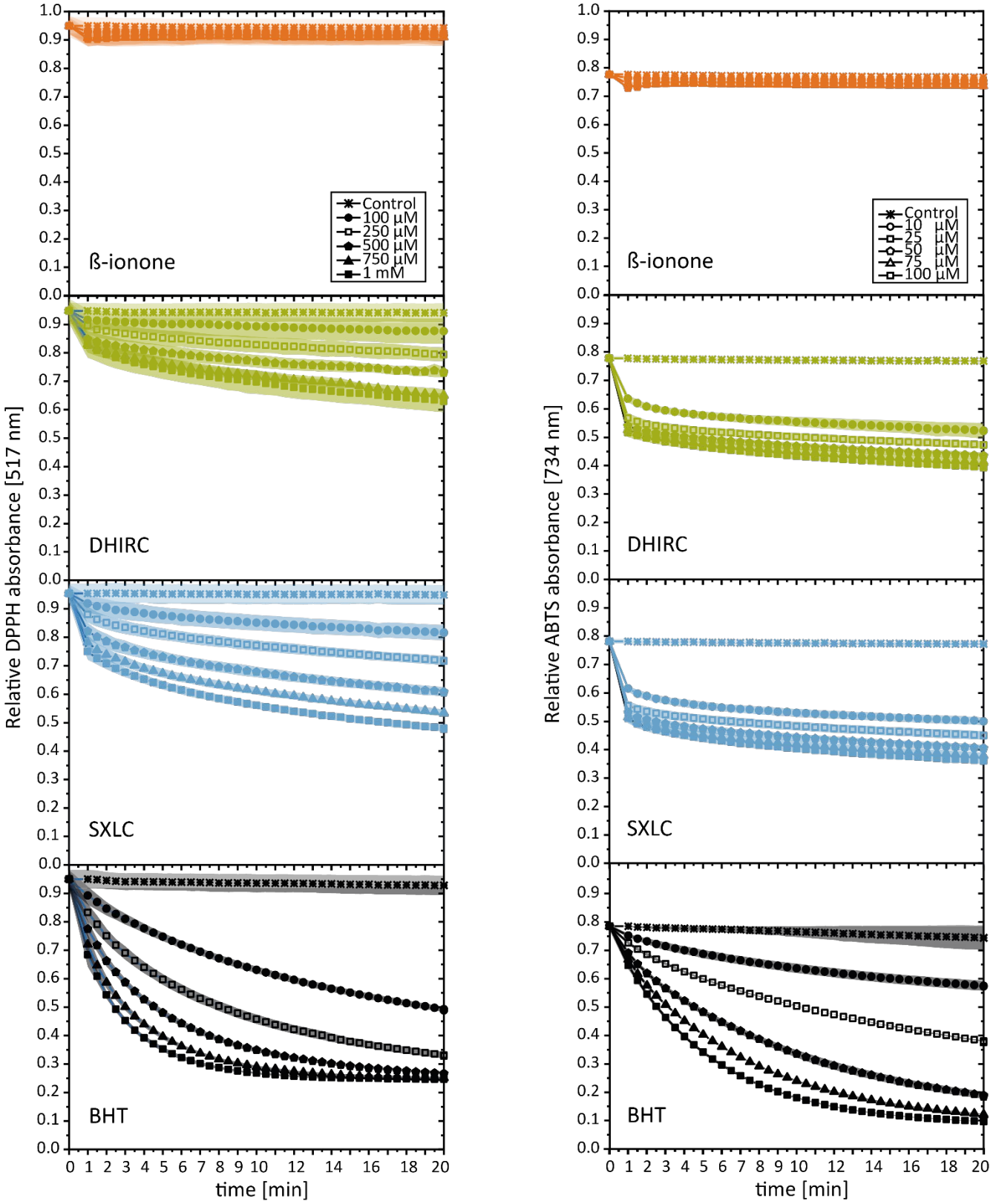


Fig. S7 Additional spectrophotometric ABTS and DPPH radical absorption quenching curves at various concentrations with labels according to the analysed antioxidant candidate.

IncuCyte® images of SK-MEL-28 cells.

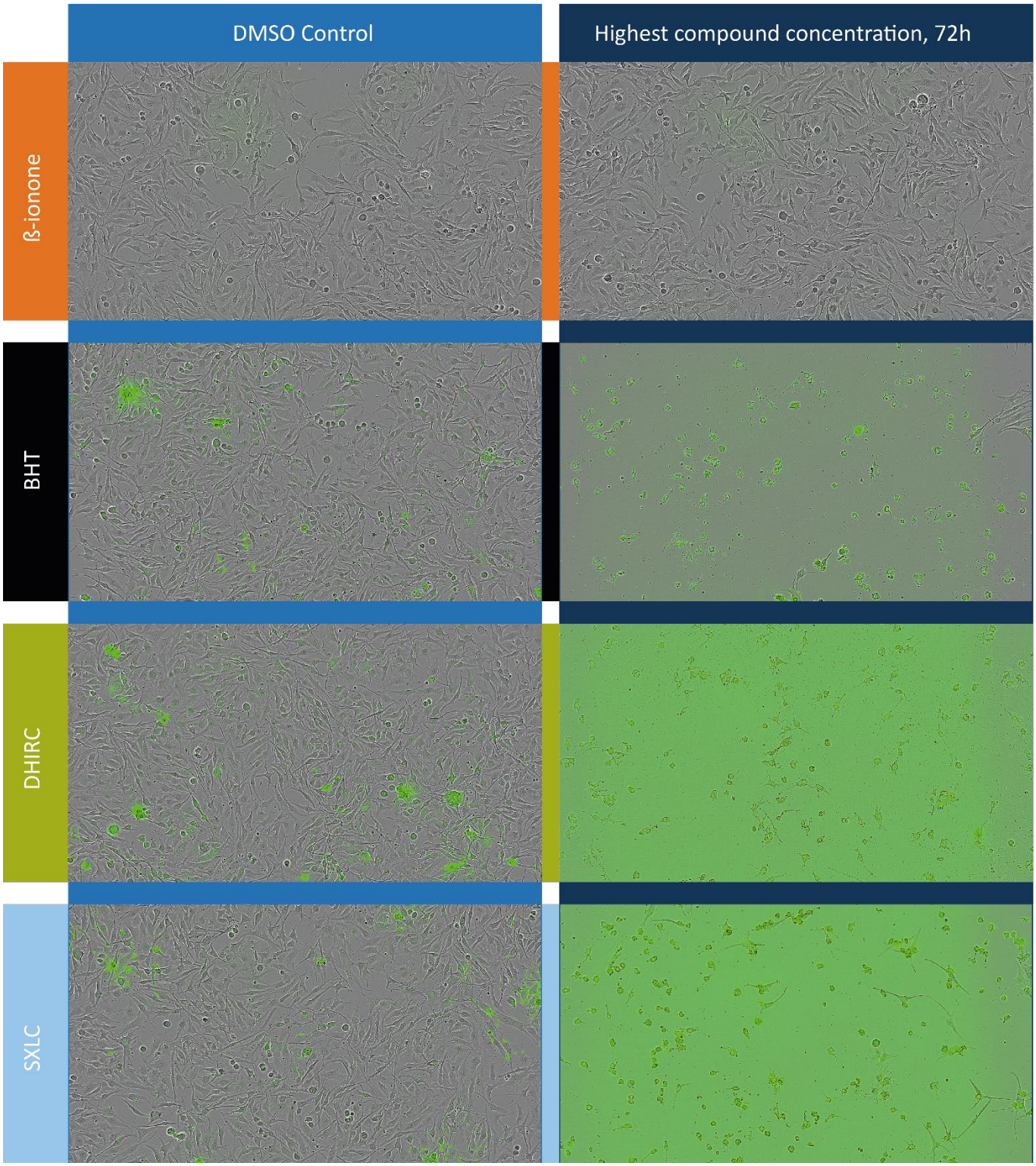


Fig. S8 Images of SK-MEL-28 cell line treated with compounds in accordance to the figure labelling at a concentration of 30 µM. All raw images were acquired with an IncuCyte® device.