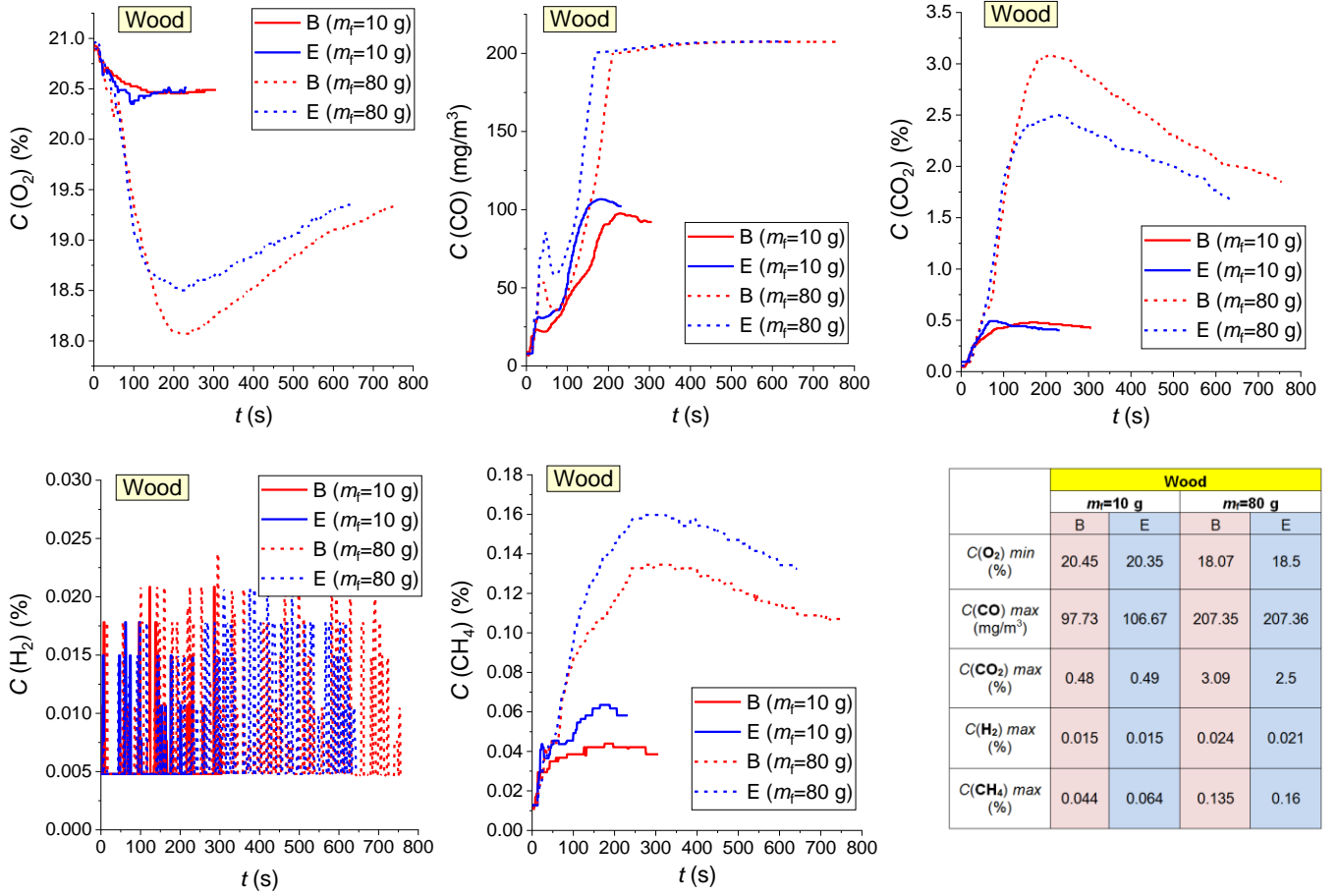
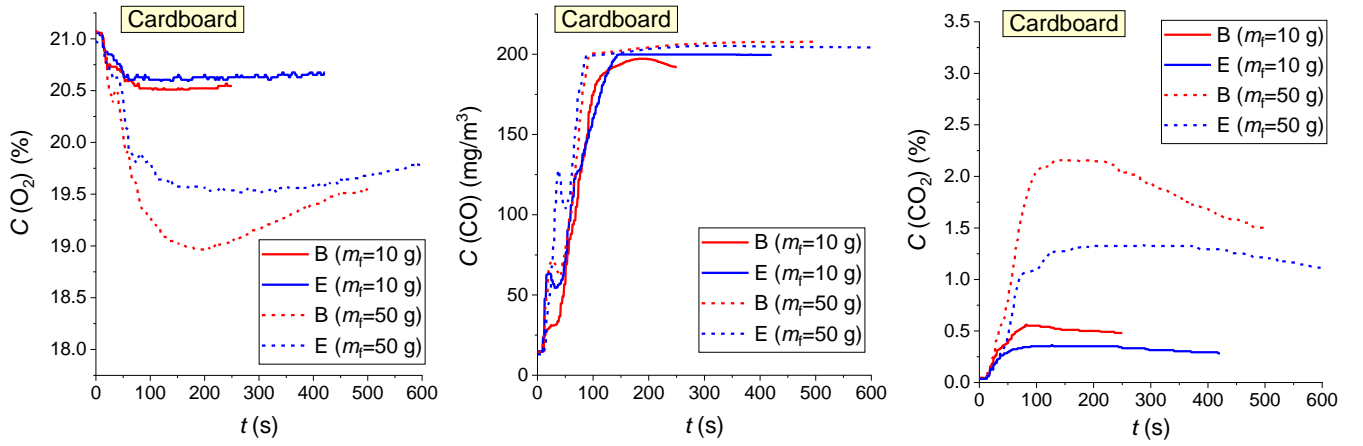
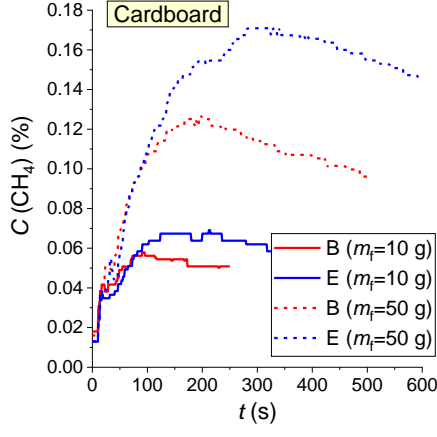
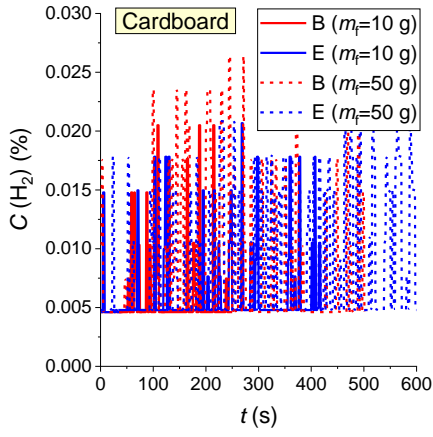


Supplementary material S



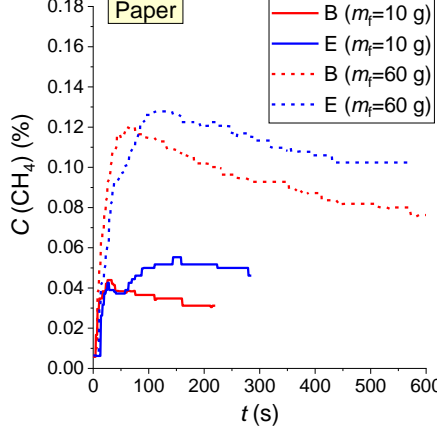
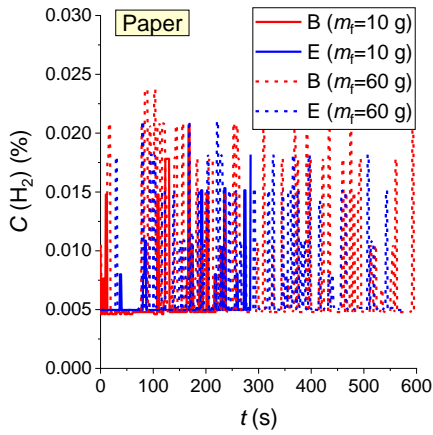
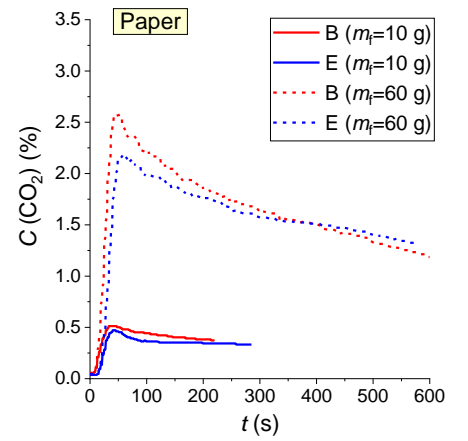
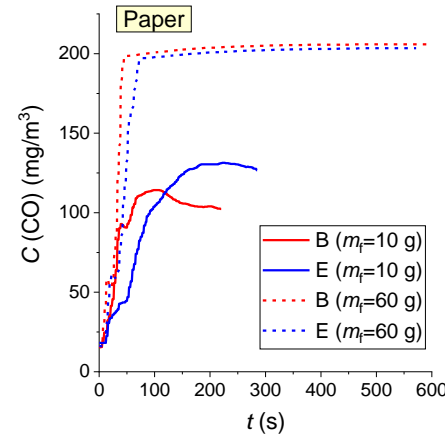
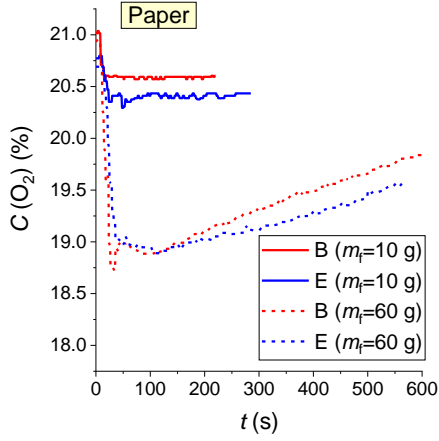
a





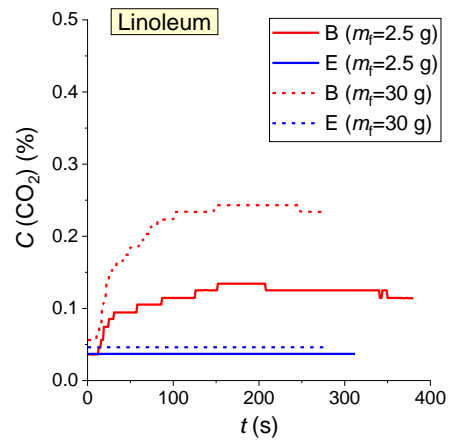
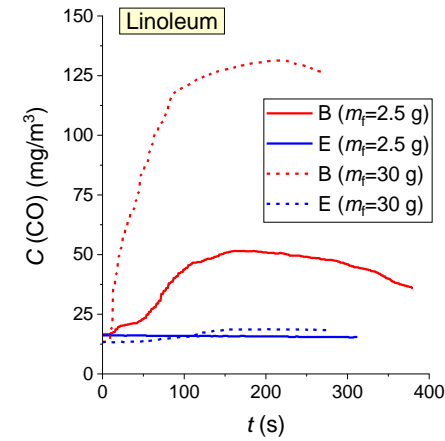
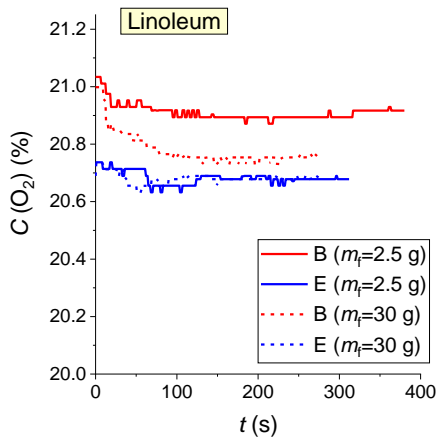
| | Cardboard | | | |
|---------------------------------------|-------------------|--------|-------------------|--------|
| | $m_i=10\text{ g}$ | | $m_i=50\text{ g}$ | |
| | B | E | B | E |
| $C(\text{O}_2)_{\min} (\%)$ | 20.51 | 20.61 | 18.97 | 19.51 |
| $C(\text{CO})_{\max} (\text{mg/m}^3)$ | 197.15 | 199.84 | 207.81 | 204.94 |
| $C(\text{CO}_2)_{\max} (\%)$ | 0.56 | 0.36 | 2.17 | 1.33 |
| $C(\text{H}_2)_{\max} (\%)$ | 0.021 | 0.021 | 0.026 | 0.021 |
| $C(\text{CH}_4)_{\max} (\%)$ | 0.058 | 0.069 | 0.12 | 0.171 |

b



| | Paper | | | |
|---------------------------------------|-------------------|-------|-------------------|--------|
| | $m_i=10\text{ g}$ | | $m_i=60\text{ g}$ | |
| | B | E | B | E |
| $C(\text{O}_2)_{\min} (\%)$ | 20.57 | 20.31 | 18.72 | 18.89 |
| $C(\text{CO})_{\max} (\text{mg/m}^3)$ | 114.2 | 131.4 | 205.63 | 203.23 |
| $C(\text{CO}_2)_{\max} (\%)$ | 0.51 | 0.47 | 2.57 | 2.19 |
| $C(\text{H}_2)_{\max} (\%)$ | 0.021 | 0.018 | 0.024 | 0.021 |
| $C(\text{CH}_4)_{\max} (\%)$ | 0.044 | 0.055 | 0.12 | 0.128 |

c



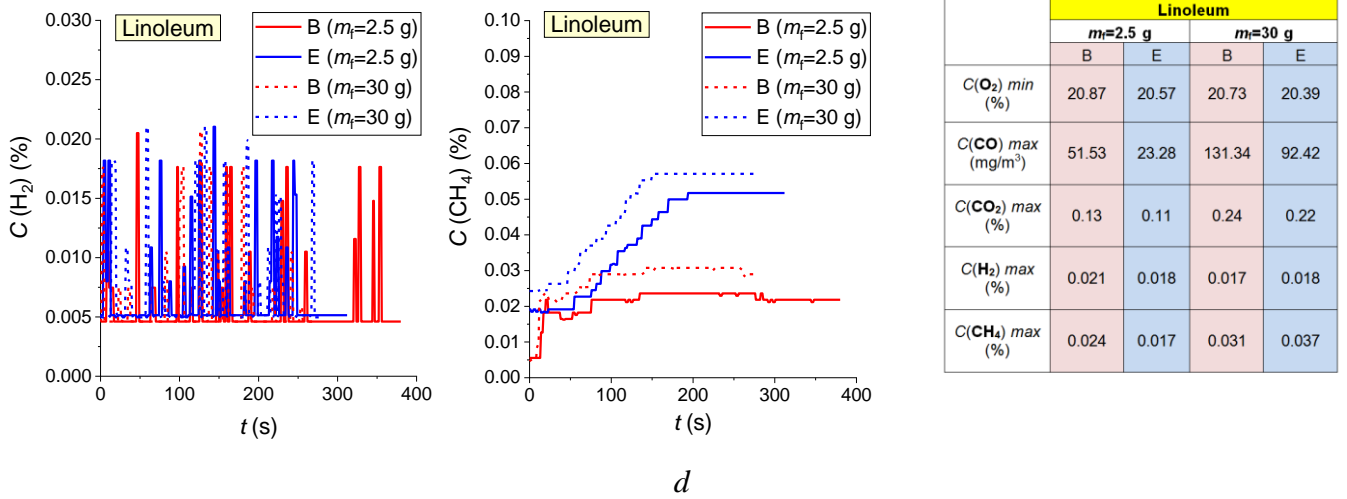
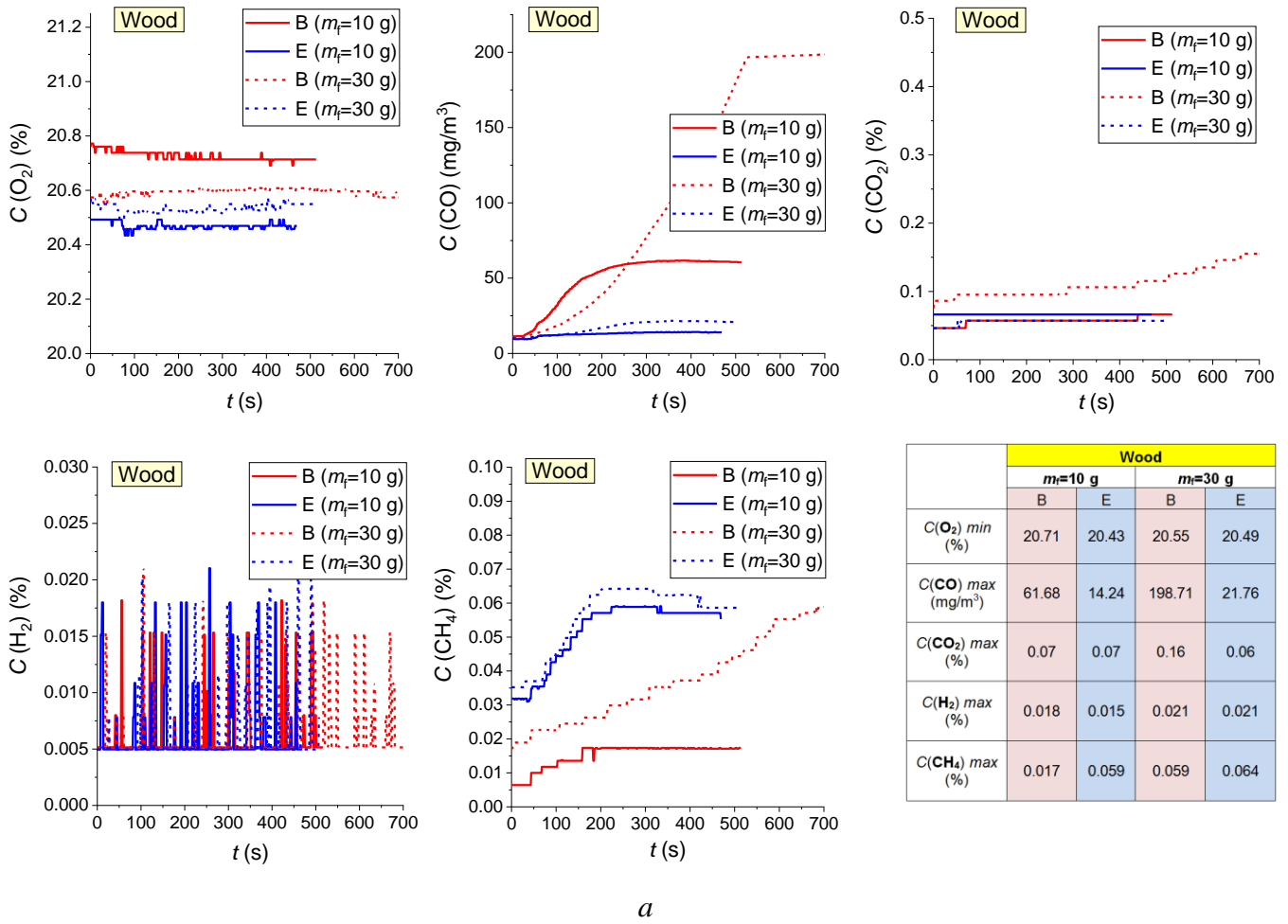
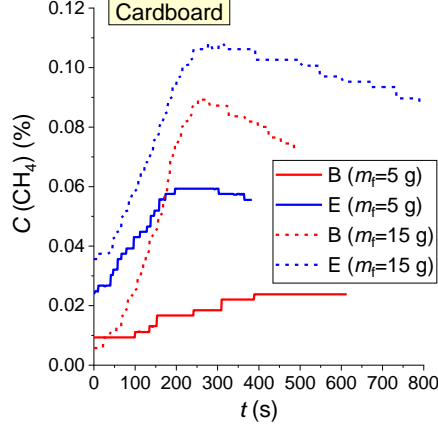
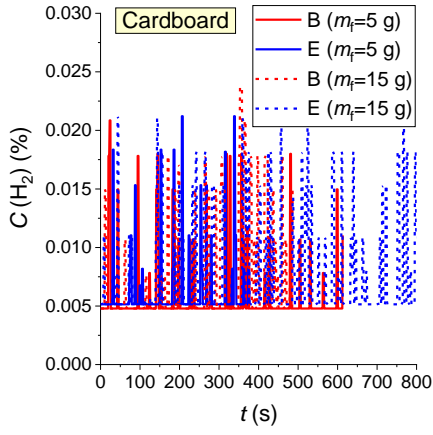
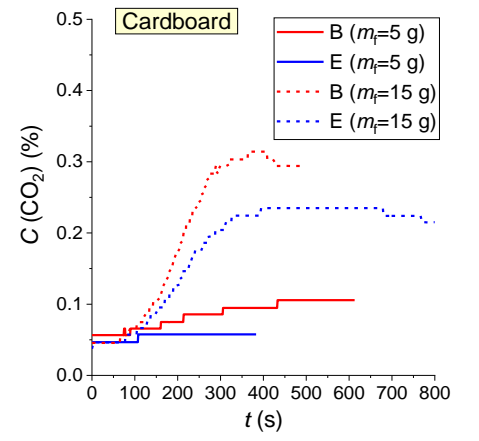
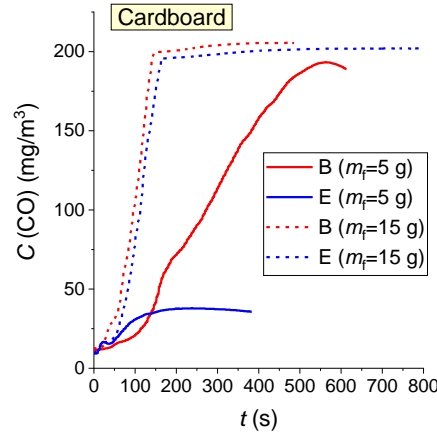
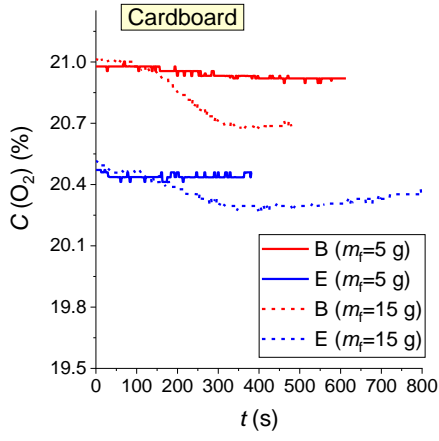


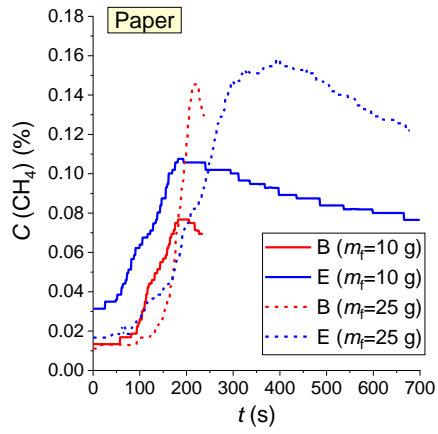
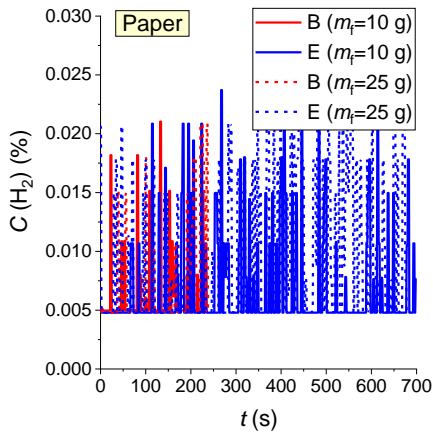
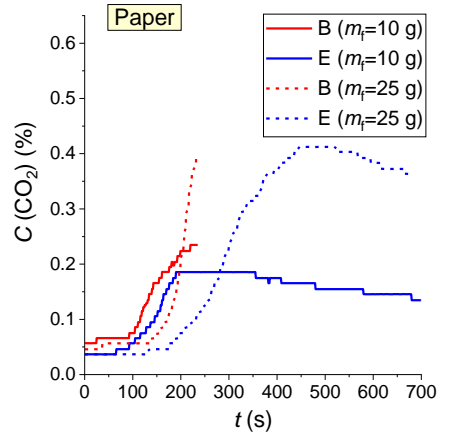
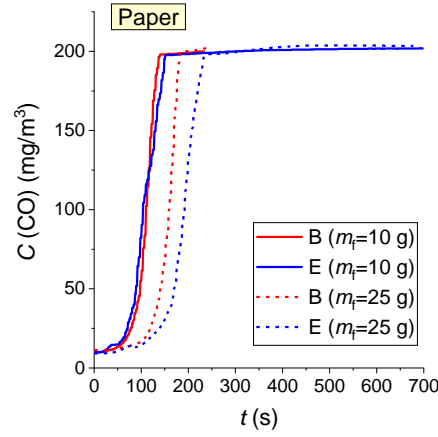
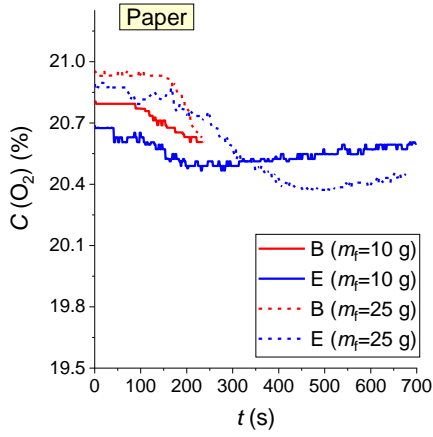
Figure S1. Trends of O_2 , CO , CO_2 , H_2 and CH_4 concentrations obtained using GDS for the model fires under study when imitating the conditions of careless handling of fire (gas burner), and threshold concentrations of gas components (B – burning; E – extinguishing): *a* – wood; *b* – cardboard; *c* – paper; *d* – linoleum.





| | Cardboard | | | |
|---------------------------------------|------------------|-------|-------------------|--------|
| | $m_i=5\text{ g}$ | | $m_i=15\text{ g}$ | |
| | B | E | B | E |
| $C(\text{O}_2)_{\min} (\%)$ | 20.89 | 20.41 | 20.68 | 20.27 |
| $C(\text{CO})_{\max} (\text{mg/m}^3)$ | 193.34 | 38.02 | 205.64 | 201.61 |
| $C(\text{CO}_2)_{\max} (\%)$ | 0.11 | 0.06 | 0.31 | 0.24 |
| $C(\text{H}_2)_{\max} (\%)$ | 0.021 | 0.021 | 0.024 | 0.021 |
| $C(\text{CH}_4)_{\max} (\%)$ | 0.024 | 0.059 | 0.089 | 0.108 |

b



| | Paper | | | |
|---------------------------------------|-------------------|--------|-------------------|--------|
| | $m_i=10\text{ g}$ | | $m_i=25\text{ g}$ | |
| | B | E | B | E |
| $C(\text{O}_2)_{\min} (\%)$ | 20.61 | 20.47 | 20.61 | 20.37 |
| $C(\text{CO})_{\max} (\text{mg/m}^3)$ | 199.97 | 202.04 | 202.06 | 203.78 |
| $C(\text{CO}_2)_{\max} (\%)$ | 0.24 | 0.19 | 0.39 | 0.41 |
| $C(\text{H}_2)_{\max} (\%)$ | 0.021 | 0.023 | 0.021 | 0.021 |
| $C(\text{CH}_4)_{\max} (\%)$ | 0.077 | 0.108 | 0.146 | 0.153 |

c

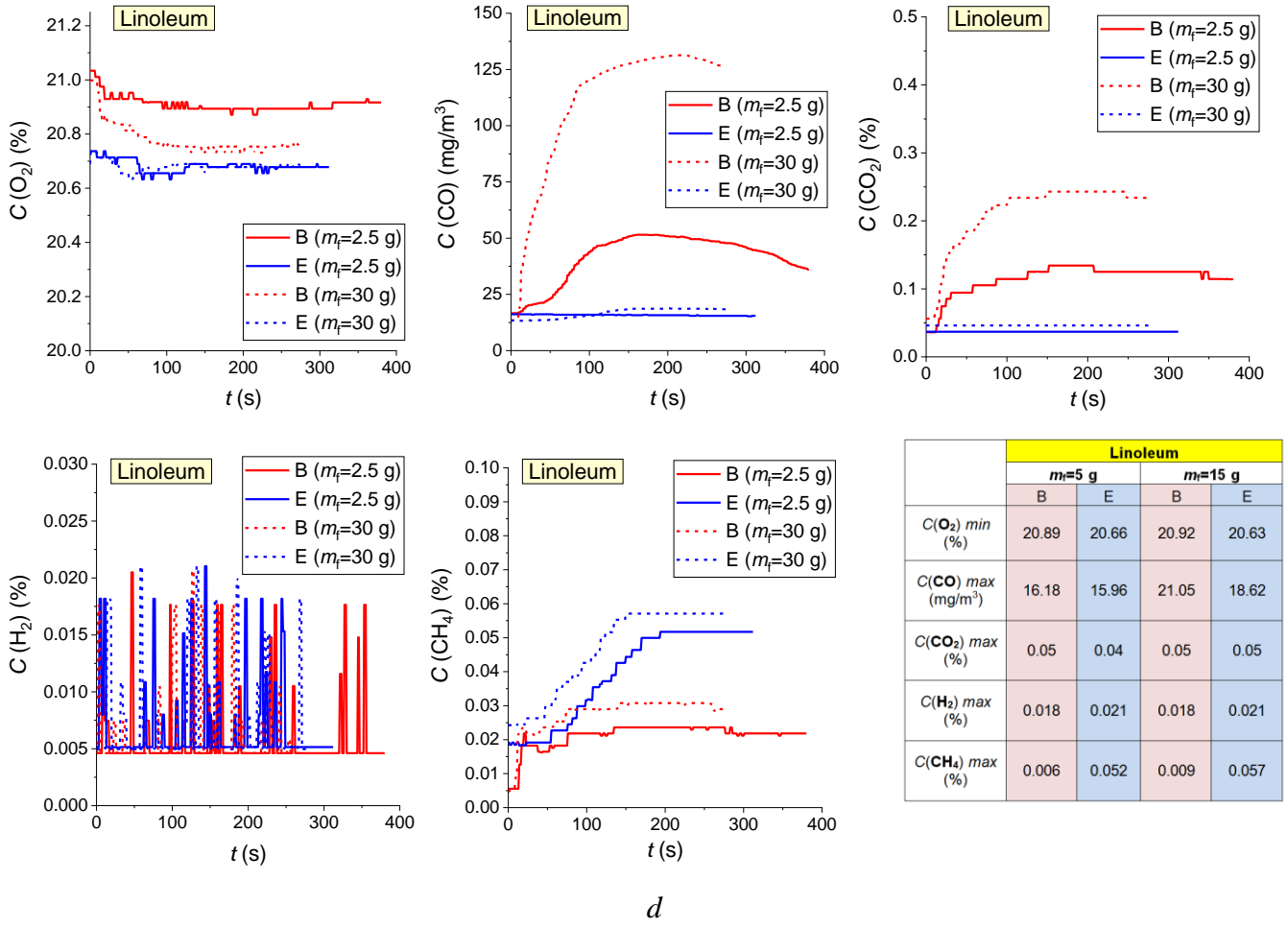
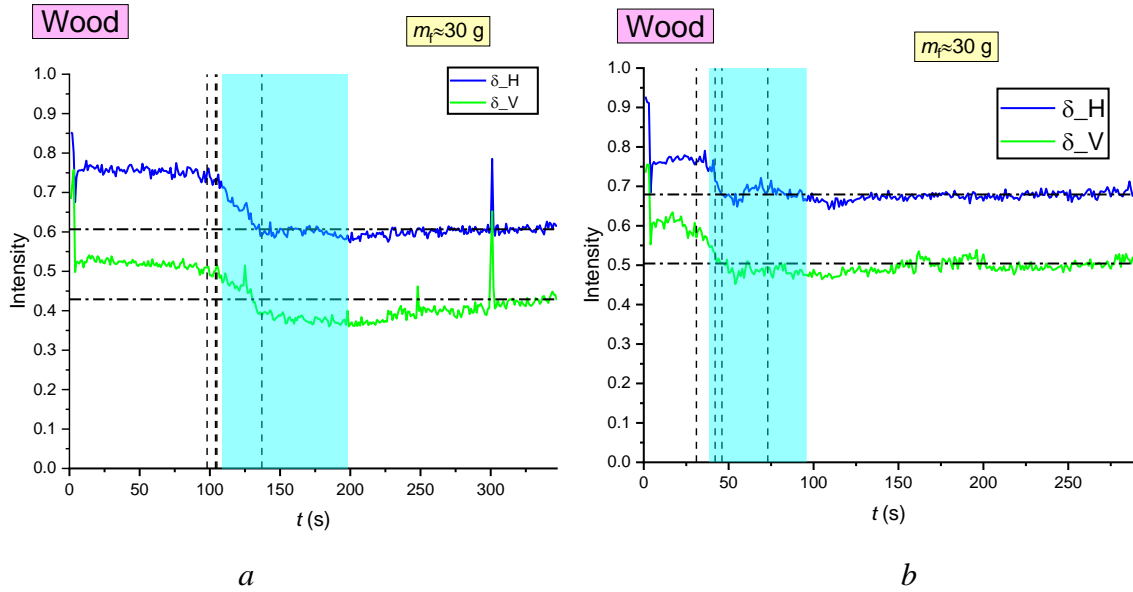


Figure S2. Trends of O₂, CO, CO₂, H₂ and CH₄ concentrations obtained using GDS for the model fires under study when imitating the conditions of improper use of heating equipment (*hot plate*), and threshold concentrations of gas components (B – burning; E – extinguishing): *a* – wood; *b* – cardboard; *c* – paper; *d* – linoleum.



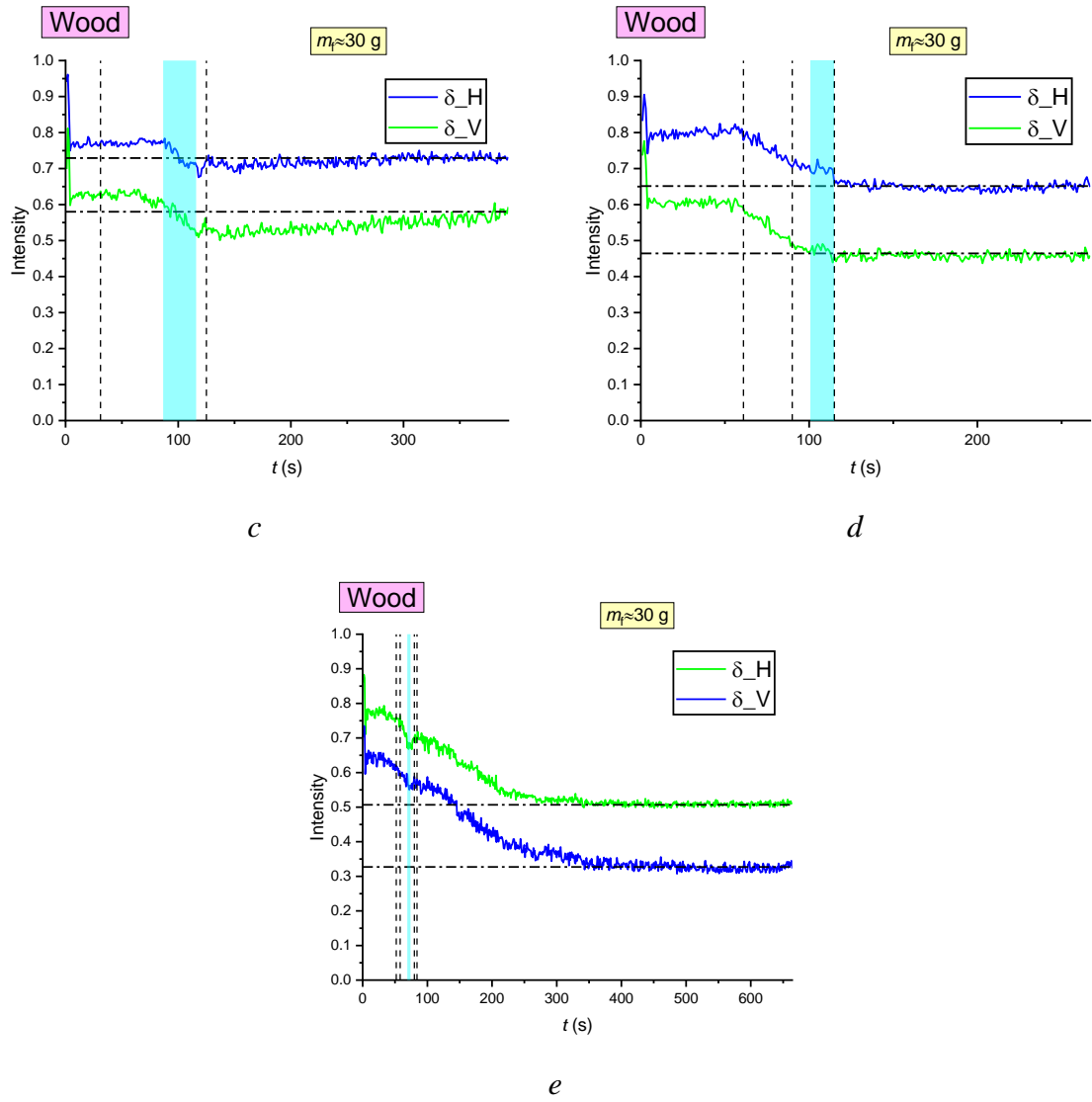
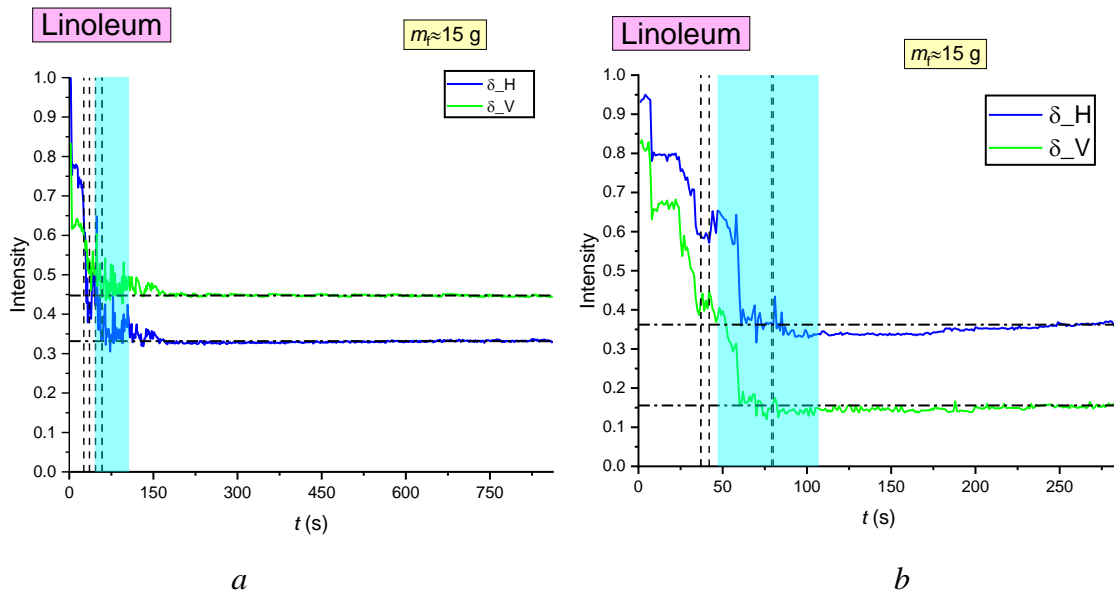


Figure S3. Change in δ when reproducing the conditions of improper use of heating equipment (*hot plate*) for the model fires consisting of wood with different duration of extinguishment: *a* – 90 s; *b* – 60 s; *c* – 30 s; *d* – 15 s; *e* – 5 s.



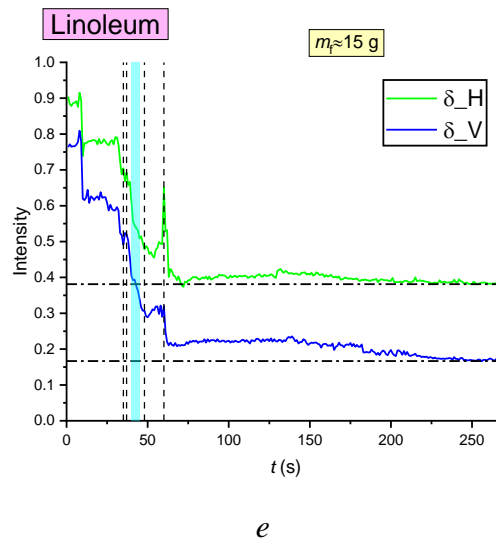
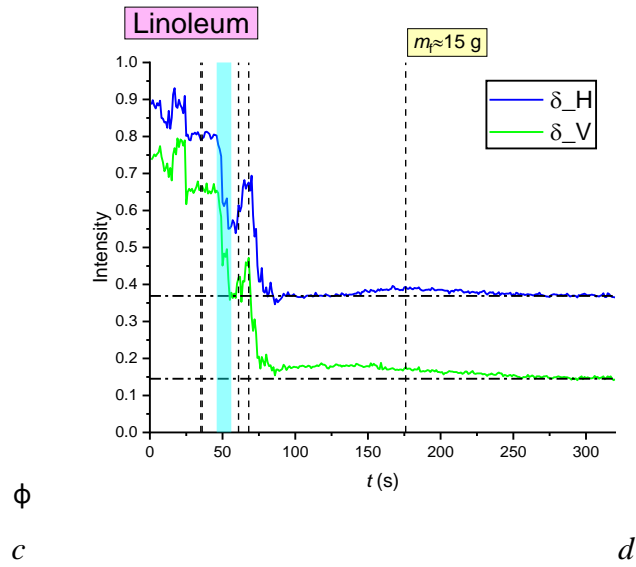
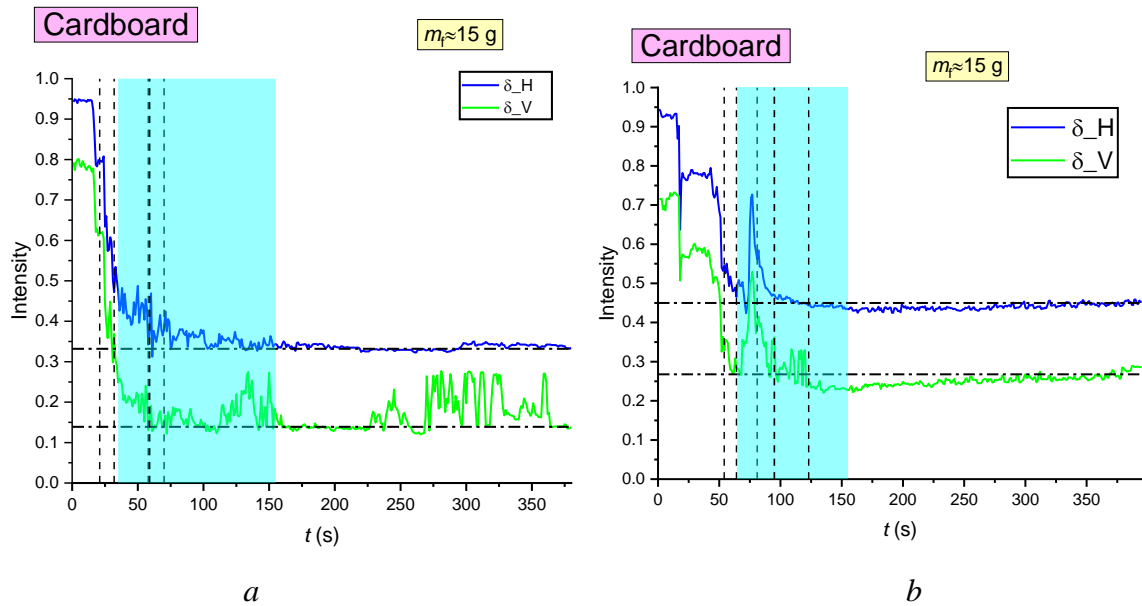


Figure S4. Change in δ when reproducing the conditions of improper use of heating equipment (*hot plate*) for the model fires consisting of linoleum with different duration of extinguishment: *a* – 60 s; *b* – 30 s; *c* – 15 s; *d* – 10 s; *e* – 5 s.



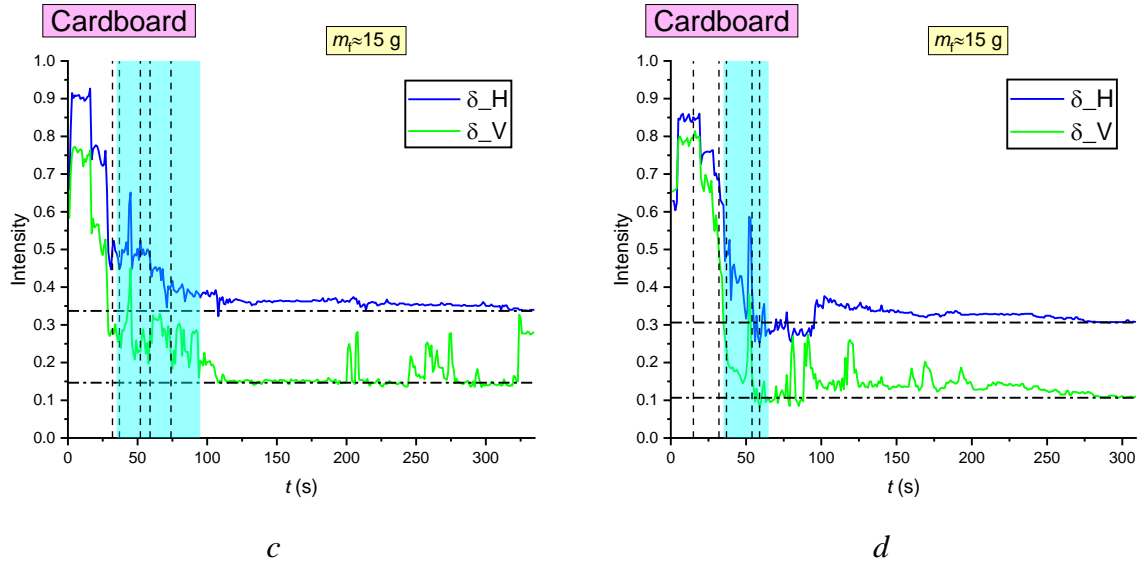
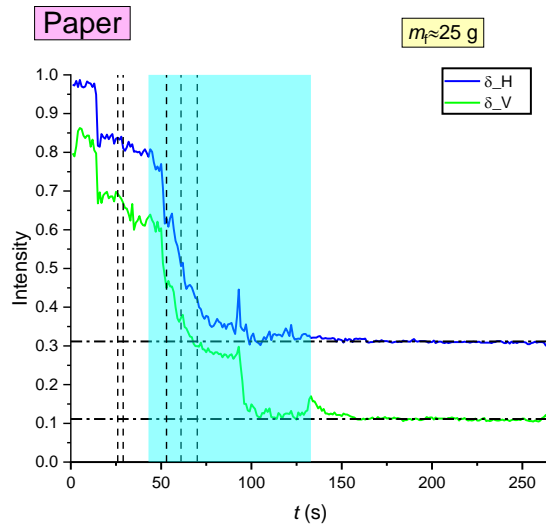
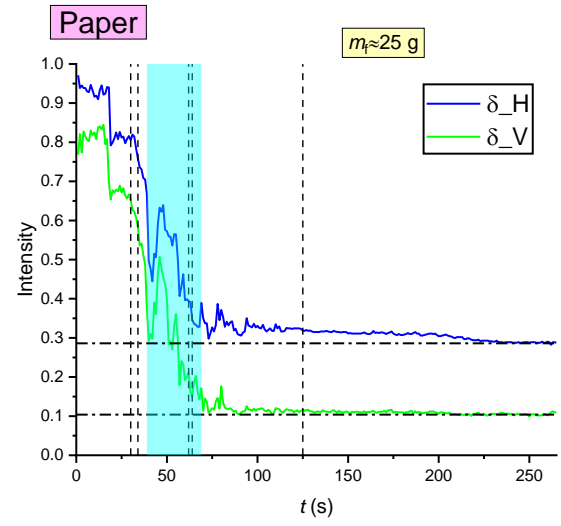


Figure S5. Change in δ when reproducing the conditions of improper use of heating equipment (*hot plate*) for the model fires consisting of cardboard with different duration of extinguishment: *a* – 120 s; *b* – 90 s; *c* – 60 s; *d* – 30 s.



a



b

Figure S6. Change in δ when reproducing the conditions of improper use of heating equipment (*hot plate*) for the model fires consisting of paper with different duration of extinguishment: *a* – 90 s; *b* – 30 s.

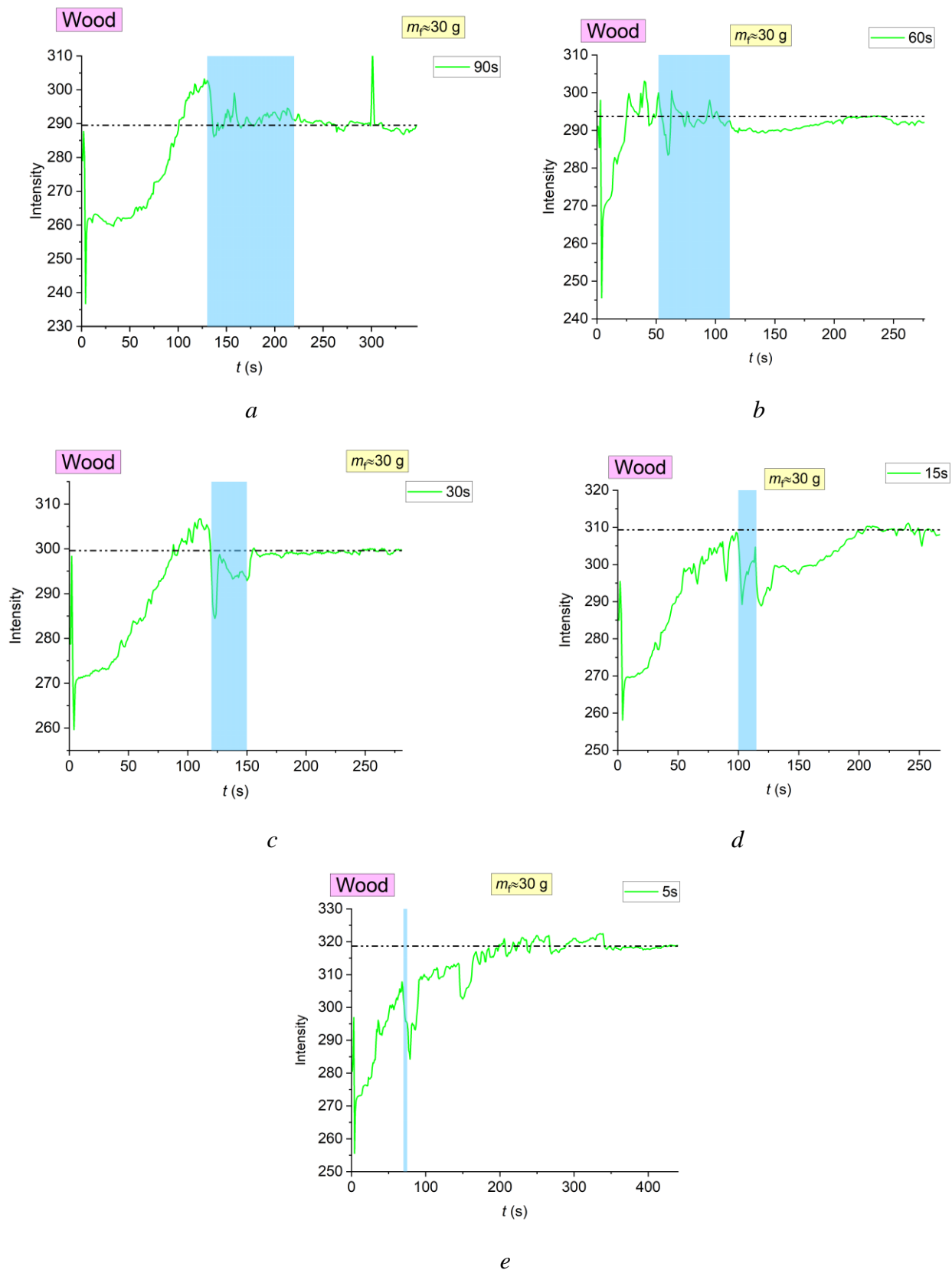


Figure S7. Change in the absolute average intensity of images when reproducing the conditions of improper use of heating equipment (*hot plate*) for the fires involving wood with different duration of extinguishment: *a* – 90 s; *b* – 60 s; *c* – 30 s; *d* – 15 s; *e* – 5 s.

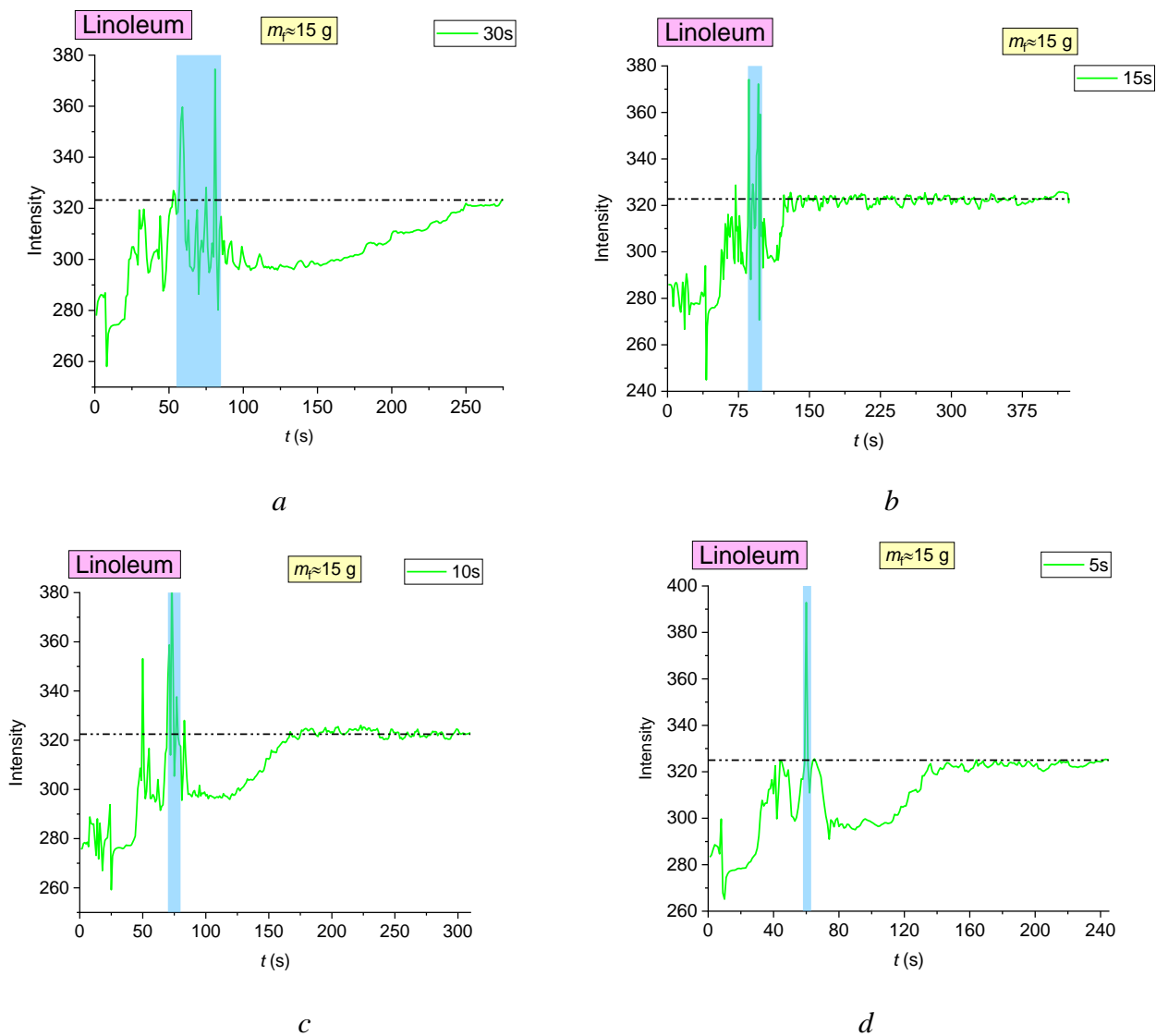
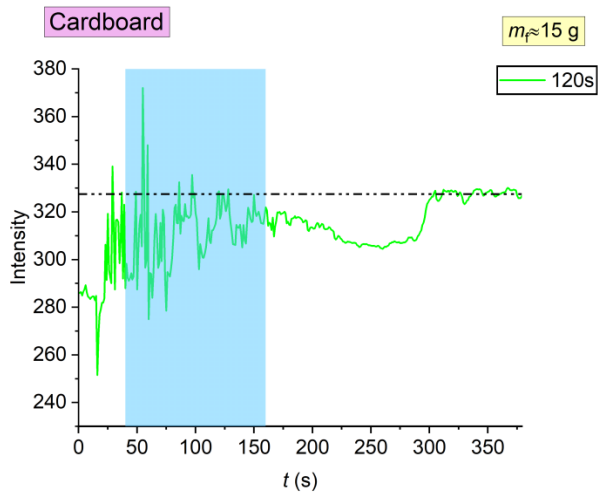
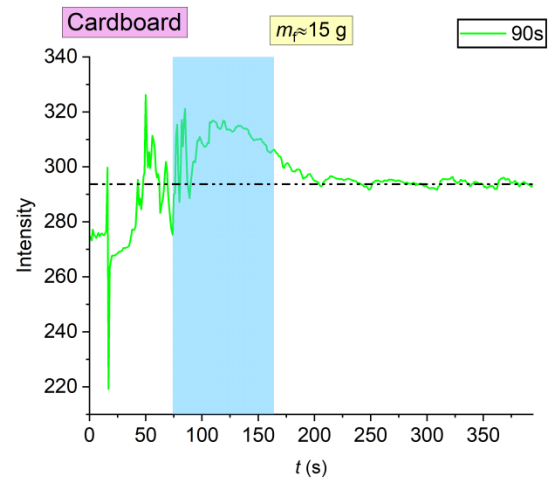


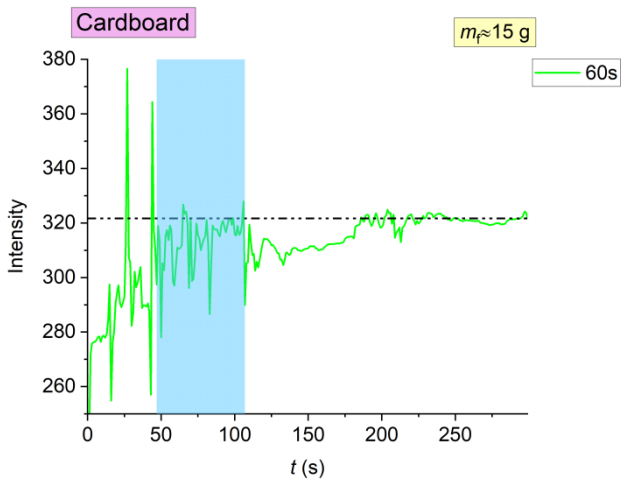
Figure S8. Change in δ when reproducing the conditions of improper use of heating equipment (*hot plate*) for model fires consisting of linoleum with different duration of extinguishment: *a* – 30 s; *b* – 15 s; *c* – 10 s; *d* – 5 s.



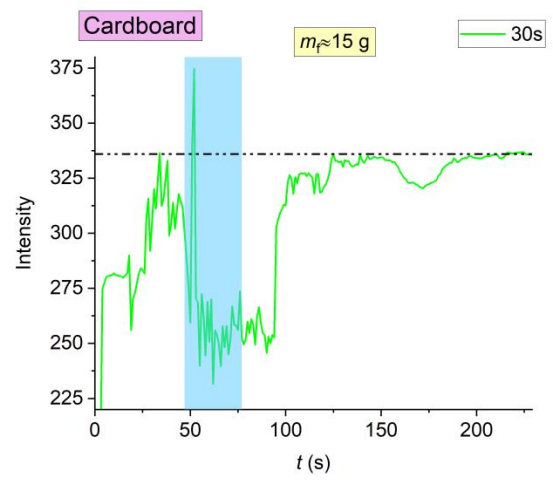
a



b



c



d

Figure S9. Change in δ when reproducing the conditions of improper use of heating equipment (*hot plate*) for the fires consisting of cardboard with different duration of extinguishment: *a* – 120 s; *b* – 90 s; *c* – 60 s; *d* – 30 s.

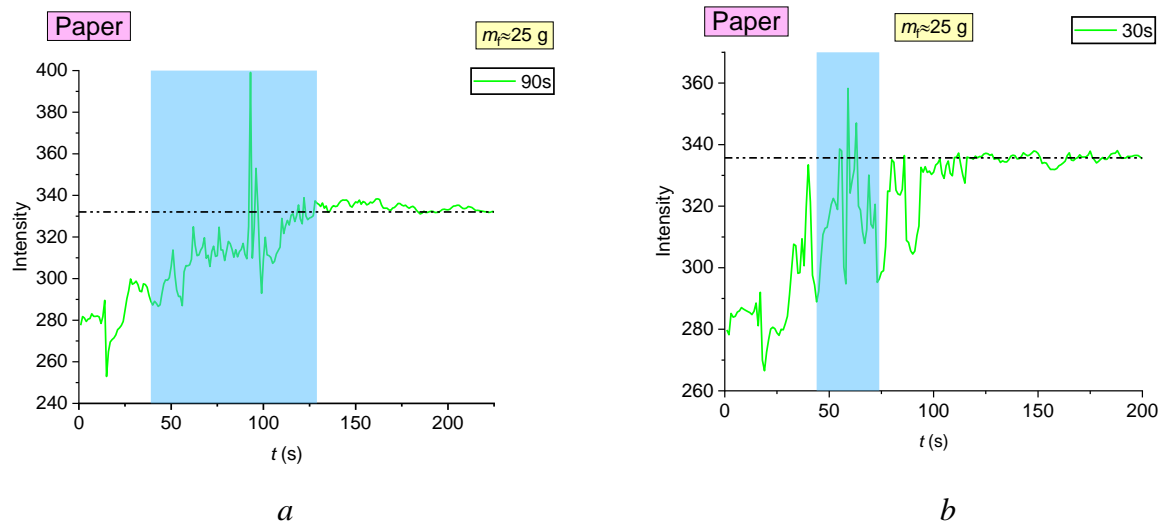


Figure S10. Change in δ when reproducing the conditions of improper use of heating equipment (*hot plate*) for the fires consisting of paper with different duration of extinguishment: *a* – 90 s; *b* – 30 s.