Supplemental Materials

Firefighters’ absorption of PAHs and VOCs during controlled residential fires by job assignment and fire attack tactic

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### Tables

**Table S1** Spearman correlation coefficients\(^a\) between PAH metabolites measured by ELISA and specific OH-PAH metabolites measured by HPLC-MS-MS for the selected job assignments.

| Collection period         | n  | 1-NAP | 2-NAP | 1-PHE | 2,3-PHE | 1-PYR | 2-FLU | 3-FLU |
|---------------------------|----|-------|-------|-------|---------|-------|-------|-------|
| Pre-exposure              | 96 | 0.39  | 0.18  | 0.36  | 0.36    | 0.27  | 0.41  | 0.41  |
| 3-hr post-exposure        | 96 | 0.39  | 0.31  | 0.49  | 0.49    | 0.53  | 0.49  | 0.46  |
| 6-hr post-exposure        | 24 | 0.37  | 0.24  | 0.42  | 0.30    | 0.35  | 0.06  | 0.14  |
| 12-hr post-exposure       | 24 | 0.28  | 0.22  | 0.17  | 0.10    | 0.15  | 0.21  | 0.23  |

\(^a\) Bolded values are statistically significant at \(p < 0.05\).

**Table S2** Median pre- to post-firefighting percent change\(^a\) in exhaled breath concentrations of VOCs by job assignment.

| Job assignment            | Benzene | Toluene | Ethyl benzene | Styrene | Xylenes |
|---------------------------|---------|---------|---------------|---------|---------|
| Attack / Search           | 105%    | 7.8%    | -25%          | 4.6%    | -32%    |
| Outside vent              | 40%     | -2.5%   | -19%          | 14%     | -12%    |
| Command / Pump            | 33%     | -14%    | -27%          | -18%    | -22%    |
| Overhaul                  | 28%     | -6.4%   | -10%          | 0.5%    | -3.5%   |

\(^a\) Bolded values are statistically significant at \(p < 0.05\).
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Figure Legends

Fig. S1  Study design flow chart showing how participants were distributed and assigned for each of the 4 fire scenarios and the timing, collection, and analysis of biological samples.
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