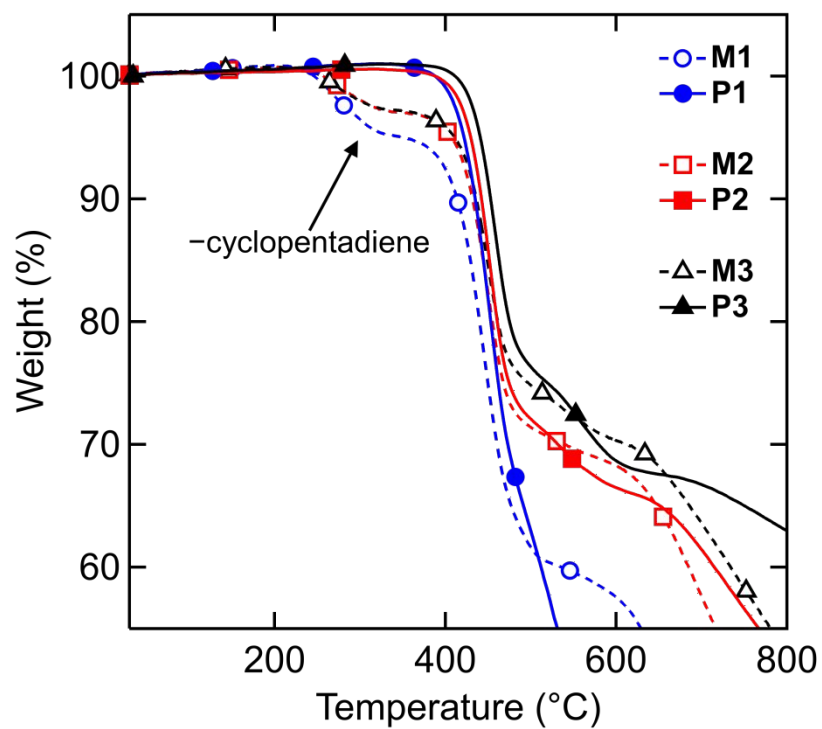


## **Supporting Information**

**High-sensitivity poly(dendrimer)-based sensors for the detection of explosives and taggant vapors.**

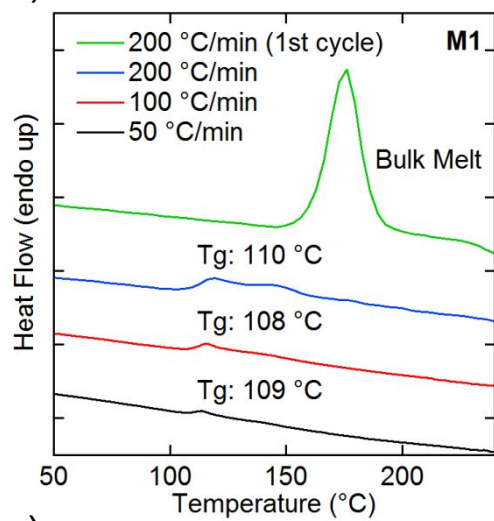
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The University of Queensland, Queensland, 4072 Australia

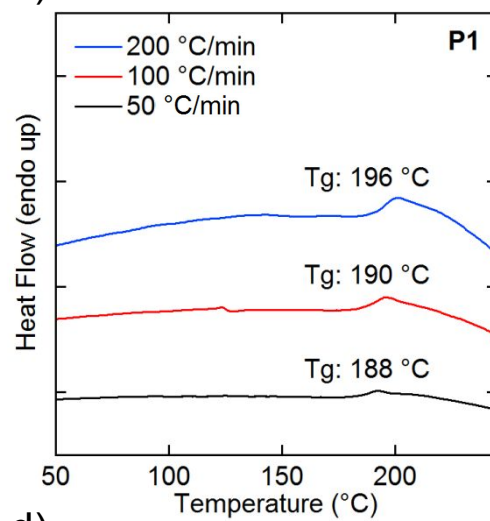


**Figure S1.** TGA thermograms for **M1-3** and **P1-3** from 30-800 °C at a heating rate of 10 °C/min. Thermal decomposition temperature ( $T_d$ ) is quoted from a 5% loss in sample mass in a nitrogen atmosphere. The monomers all have an initial weight loss at around 220 °C that corresponds to the loss of cyclopentadiene (marked as -cyclopentadiene on the figure).

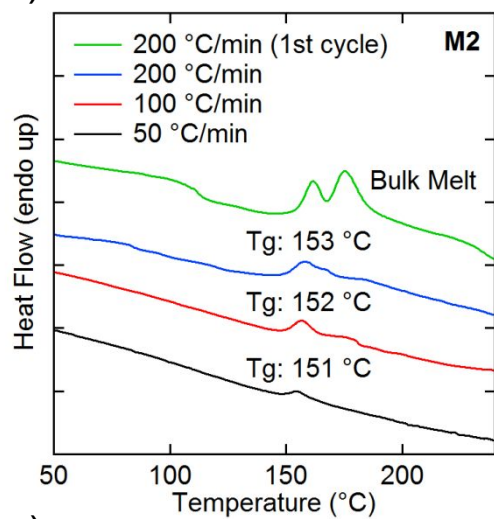
a)



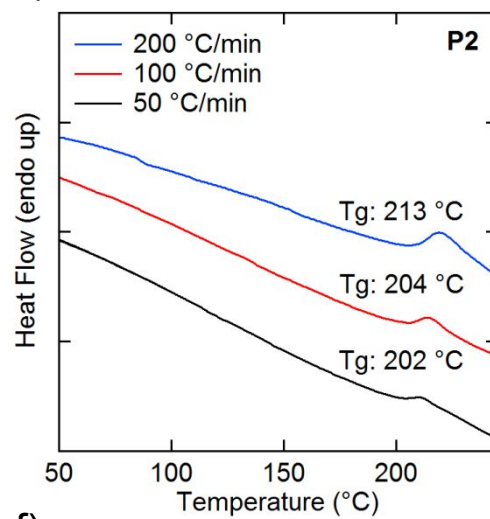
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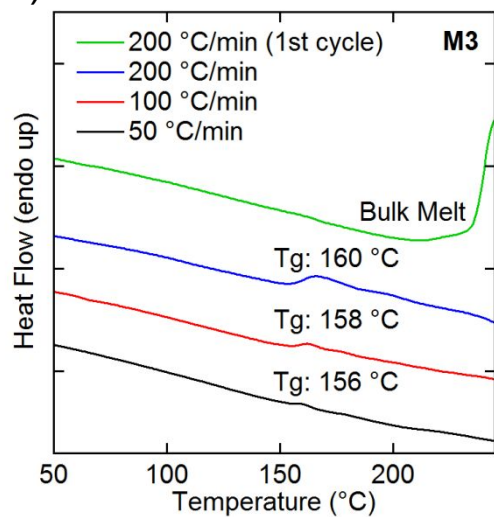
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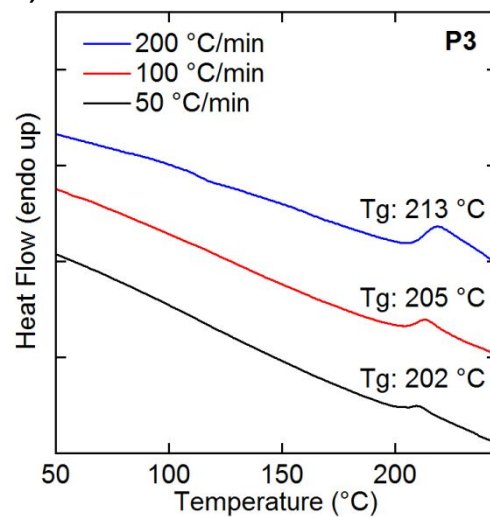
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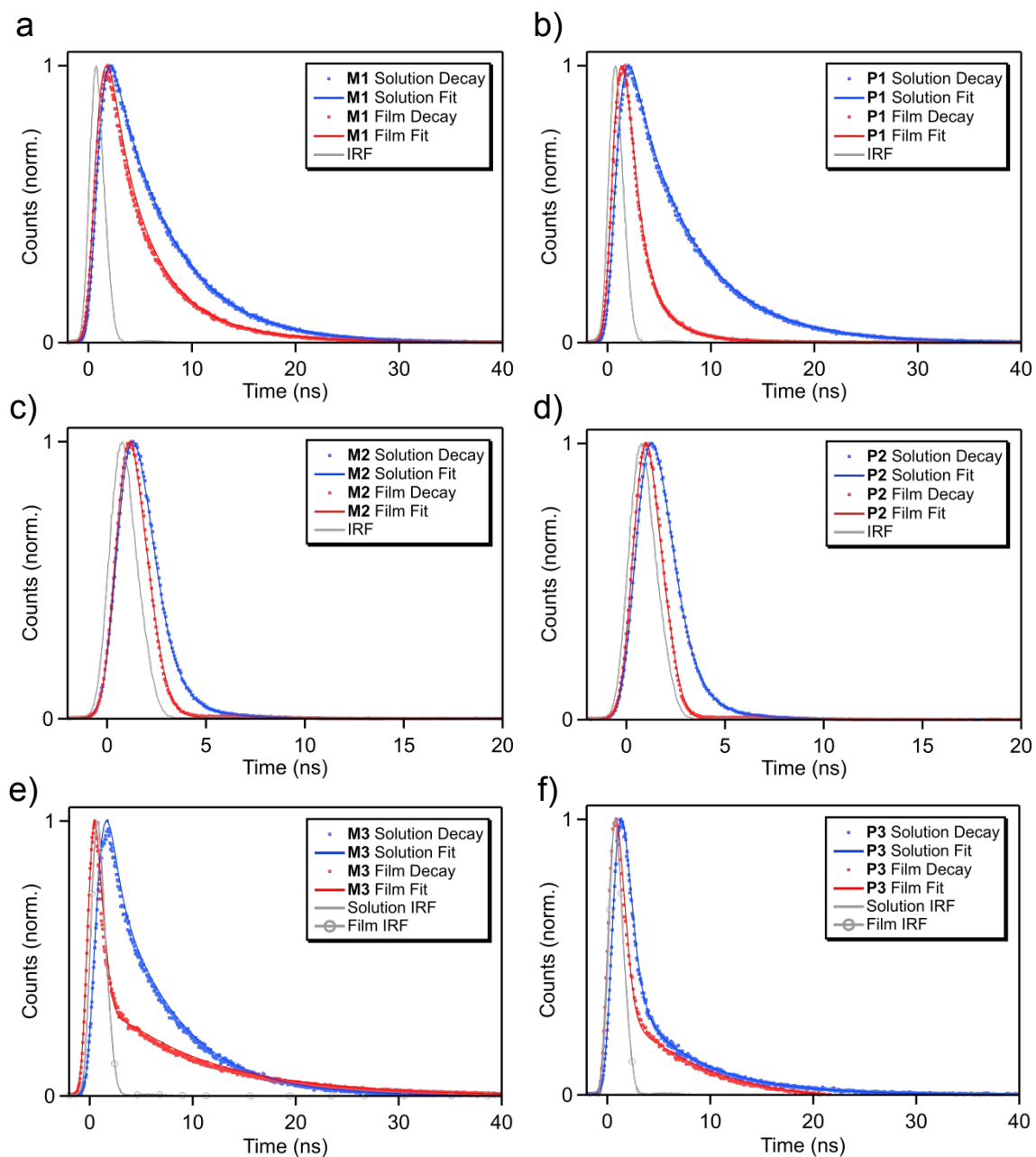
e)



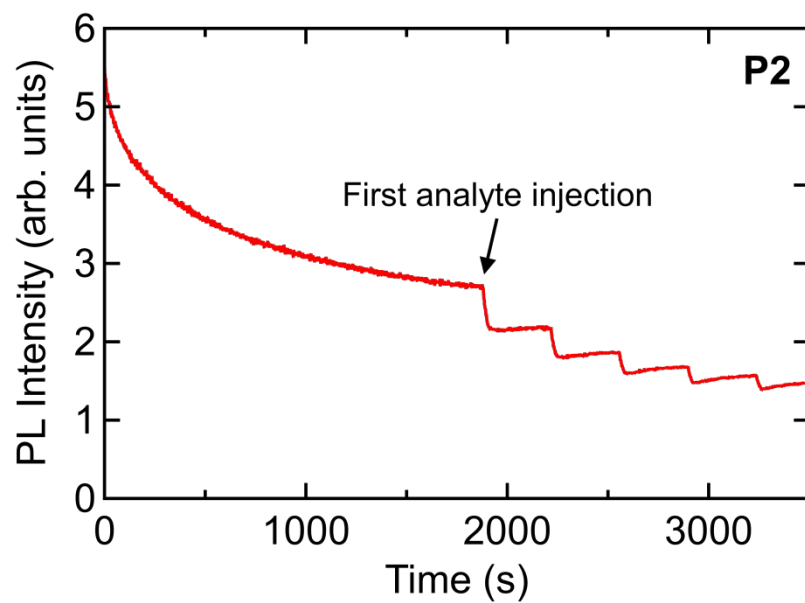
f)



**Figure S2.** DSC analysis of: a) **M1**, b) **P1**, c) **M2**, d) **P2**, e) **M3**, and f) **P3**. The measurements were carried out in the temperature range of -50-250 °C with the panels zoomed in to show the thermal transitions. Traces are offset for clarity.



**Figure S3.** Normalized photoluminescent decay lifetimes of: a) **M1**, b) **P1**, c) **M2**, d) **P2**, e) **M3**, f) **P3** in solution and thin film.



**Figure S4** – Example of a 30-minute baseline run before the introduction of analyte to **P2**.