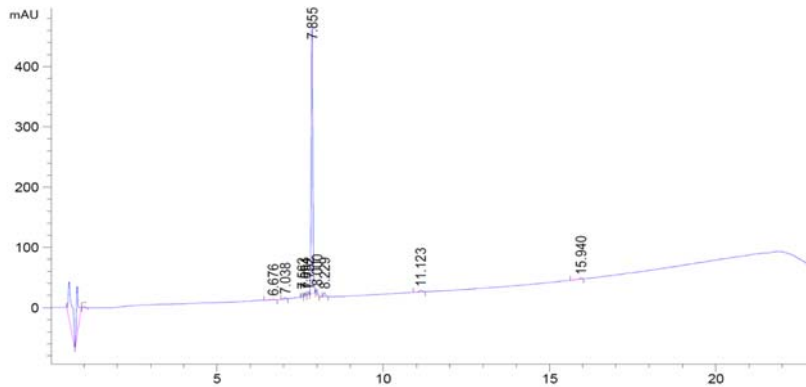


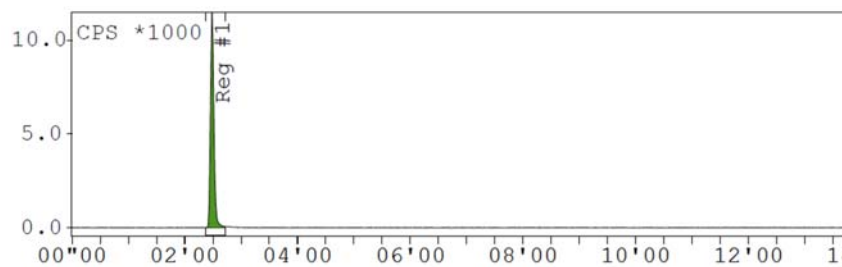
## Synthesis and characterisation of DOTA-Kisspeptin-10 as a potential gallium-68/lutetium-177 pan-tumour radiopharmaceutical

### Supplementary Data A

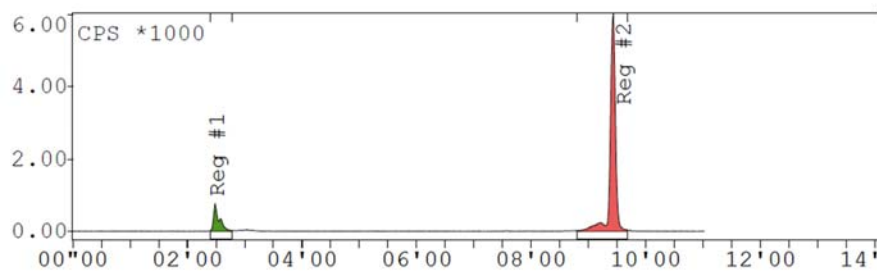


### Supplementary Data B

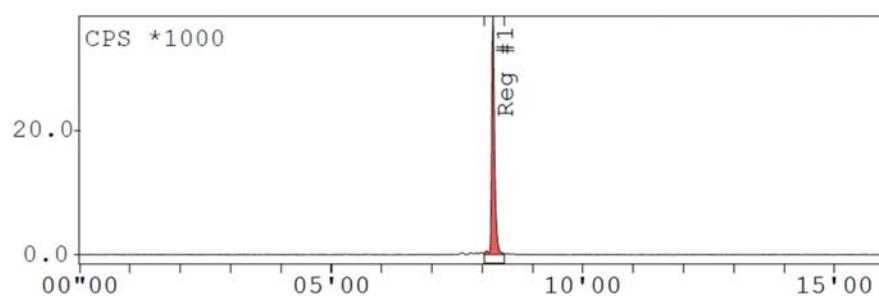
UV determination of retention time of unlabelled DOTA-KP-10 with the signal positioned at 7.8 minutes and the method run for 20 minutes. This was performed with unlabelled DOTA-KP10



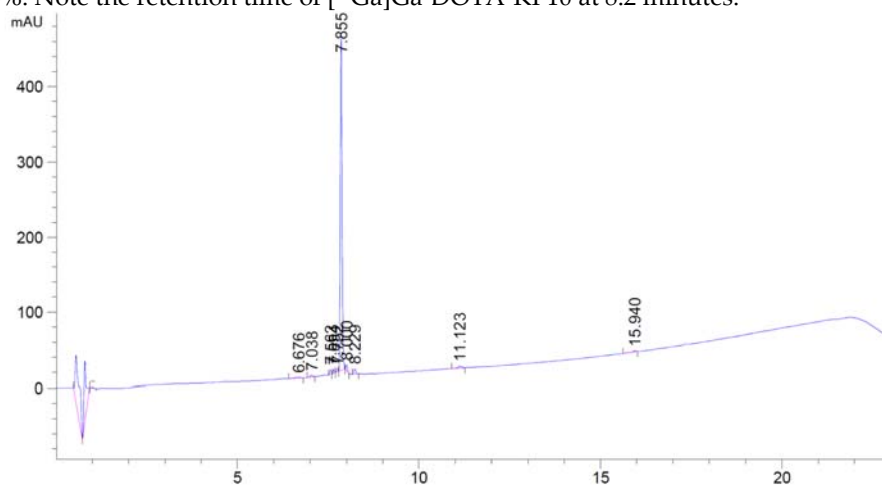
Radiochemical purity of 0% with only free gallium-68 present in the sample.



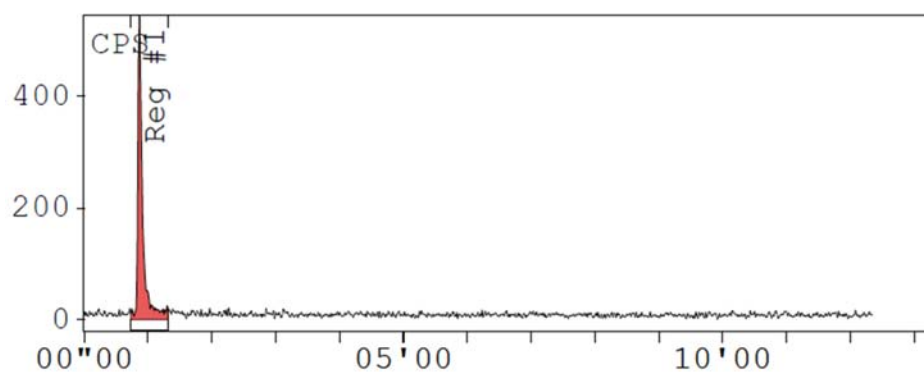
Radiochromatogram of radiolabelling in suboptimal reaction conditions resulting in a radiochemical purity of less than 95%.



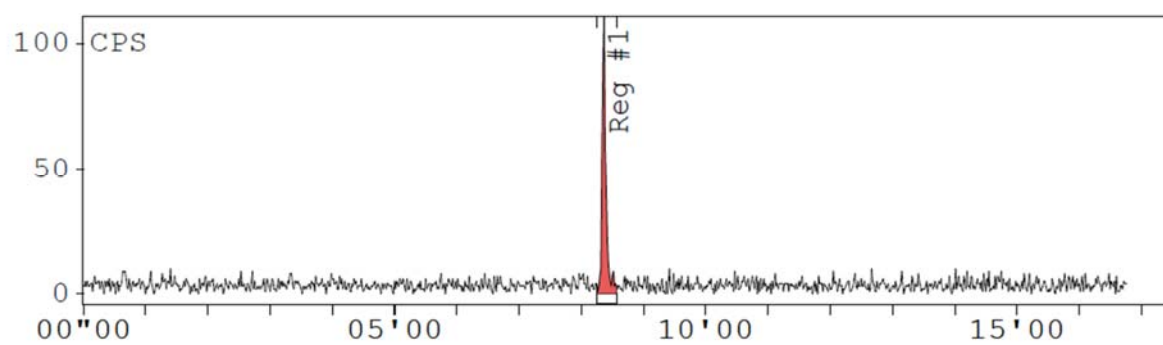
Radiochromatogram of a radiolabelling performed in optimal reaction conditions resulting in a radiochemical purity of more than 95%. Note the retention time of [ $^{68}\text{Ga}$ ]Ga-DOTA-KP10 at 8.2 minutes.



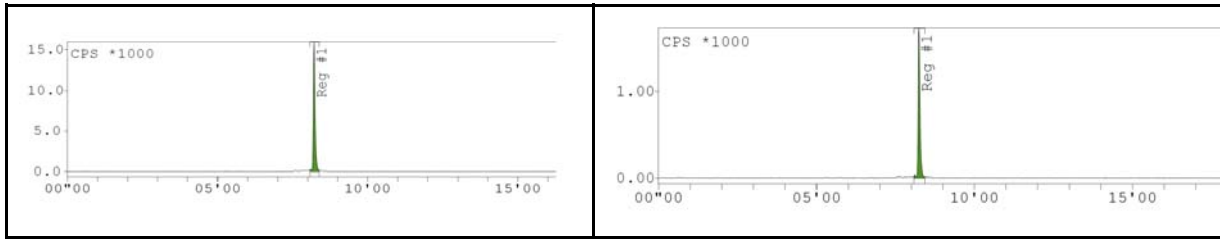
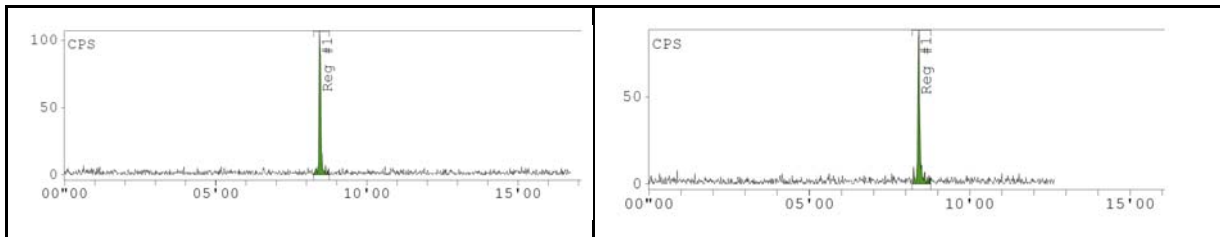
UV determination of retention time of unlabelled DOTA-KP-10 with the signal positioned at 7.8 minutes and the method run for 20 minutes. This was performed with unlabelled DOTA-KP10

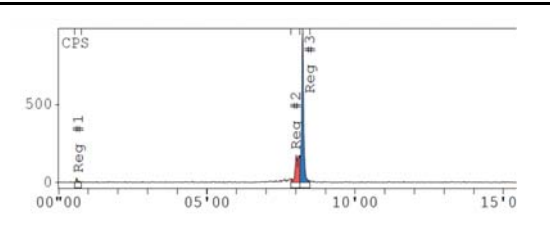
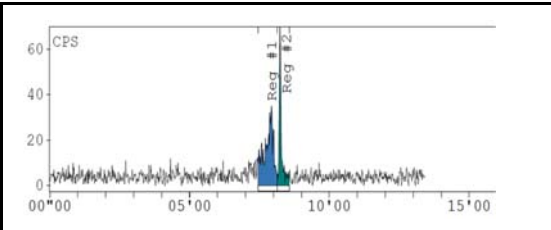
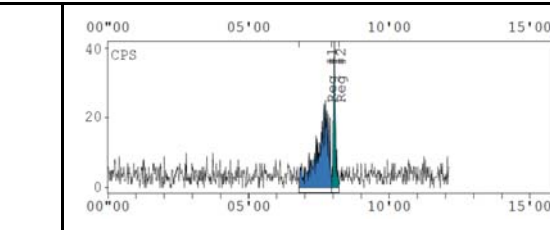
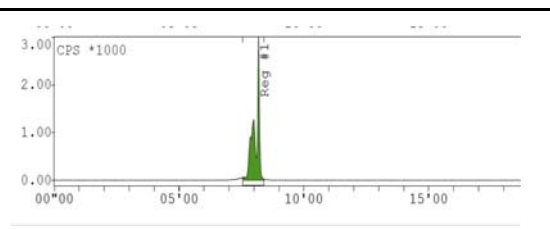
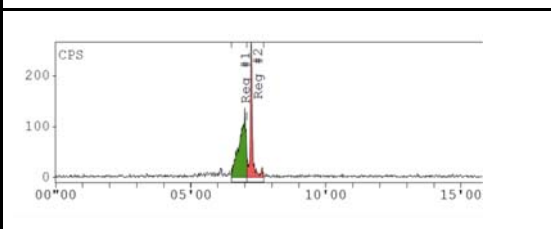
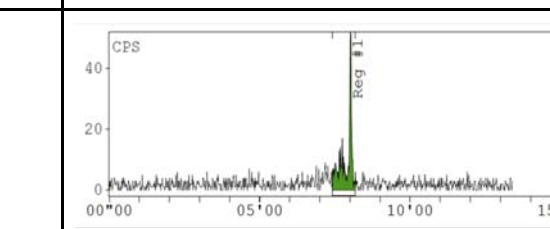
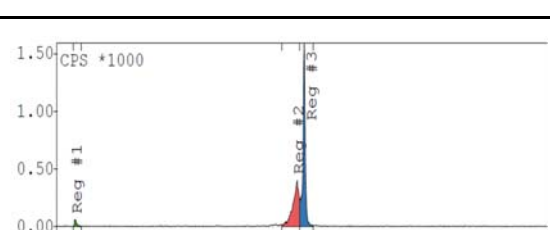
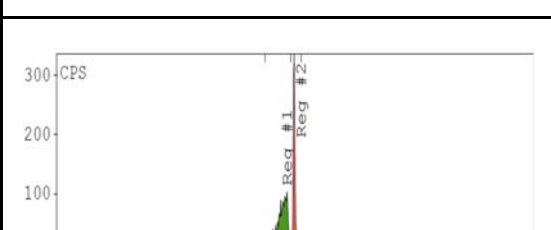
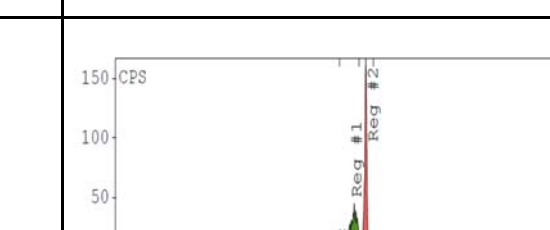


Radiochemical purity of 0% with only free lutetium-177 present in the sample.



Radiochromatogram of a radiolabelling performed in optimal reaction conditions resulting in a radiochemical purity of more than 95%. Note the retention time of [ $^{177}\text{Lu}$ ]Lu-DOTA-KP10 at 8.2 minutes.

**Supplementary Data C****[<sup>68</sup>Ga]Ga-DOTA-KP-10 Time 0 and time 3 hours bench -top Stability****[<sup>177</sup>Lu]Lu-DOTA-KP-10 Time 0 and Time 24 hours bench-top stability**

Supplementary Data D		
		
<b>Plasma stability [<sup>68</sup>Ga]Ga-DOTA-KP10 time 5 min</b>	<b>Plasma stability [<sup>68</sup>Ga]Ga-DOTA-KP10 time 60 min</b>	<b>Plasma stability [<sup>68</sup>Ga]Ga-DOTA-KP10 time 120 min</b>
		
<b>Whole blood [<sup>68</sup>Ga]Ga-DOTA-KP10 time 5 min</b>	<b>Whole blood [<sup>68</sup>Ga]Ga-DOTA-KP10 time 60 min</b>	<b>Whole blood [<sup>68</sup>Ga]Ga-DOTA-KP10 time 120 min</b>
		
<b>Serum stability [<sup>68</sup>Ga]Ga-DOTA-KP10 time 5 min</b>	<b>Serum stability [<sup>68</sup>Ga]Ga-DOTA-KP10 time 60 min</b>	<b>Serum stability [<sup>68</sup>Ga]Ga-DOTA-KP10 time 120 min</b>