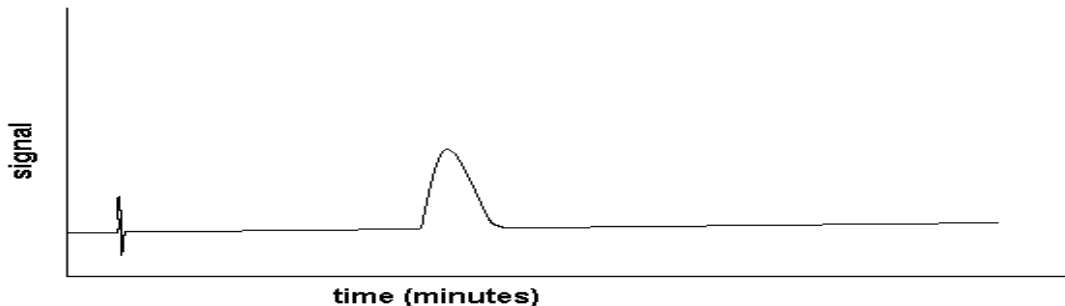


### Chromatography Additional Problems

1. A separation on an affinity column produced the chromatogram shown below. Overtop of the chromatogram, sketch show what it would look like if a second sample with more (higher concentration) of analyte was run.



2. Chromatography was performed on the following solutions, where the total volume of each solution is 100.0 mL:

solution	volume 100 ppm X (mL)	volume 50 ppm Y (mL)	volume 50 ppm Z (mL)
1	5	20	10
2	10	15	20
3	15	10	5
4	20	5	15

This resulted in 4 chromatograms with the following results:

<b>peak A</b>		<b>peak B</b>		<b>peak C</b>	
time (min)	Area (x 10 <sup>4</sup> )	time (min)	Area (x 10 <sup>5</sup> )	time (min)	Area (x 10 <sup>4</sup> )
6.44	0.68	8.00	4.10	9.72	7.99
6.54	1.98	7.96	8.30	9.68	7.63
6.34	2.18	8.03	2.53	9.66	7.27
6.49	3.02	8.12	6.29	9.58	6.93

- Which peak corresponds to which analyte?
- Make a calibration curve for each analyte
- A unknown solution was analyzed with the same method. Based on the results below, what is the composition of the sample?

retention time (min)	peak area
6.59	33419
8.05	554193
9.68	76416

[Solutions](#)