

Instituto de Química de São Carlos  
Universidade de São Paulo

# Cromatografia líquida de alta eficiência:

“determinação quantitativa de cafeína em  
alimentos”

Disciplina: Análise Instrumental II

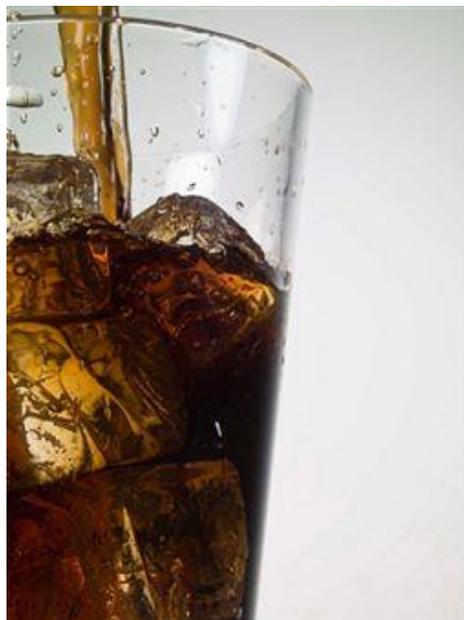
SQM0418

# Objetivo

- Adquirir destreza e desenvolver os fundamentos na execução de rotinas analíticas que envolvem a utilização de métodos de cromatografia líquida de alta eficiência (HPLC).



Fonte: <http://blog.tryoop.com.br/wp-content/uploads/2014/05/cafebullying.jpg>

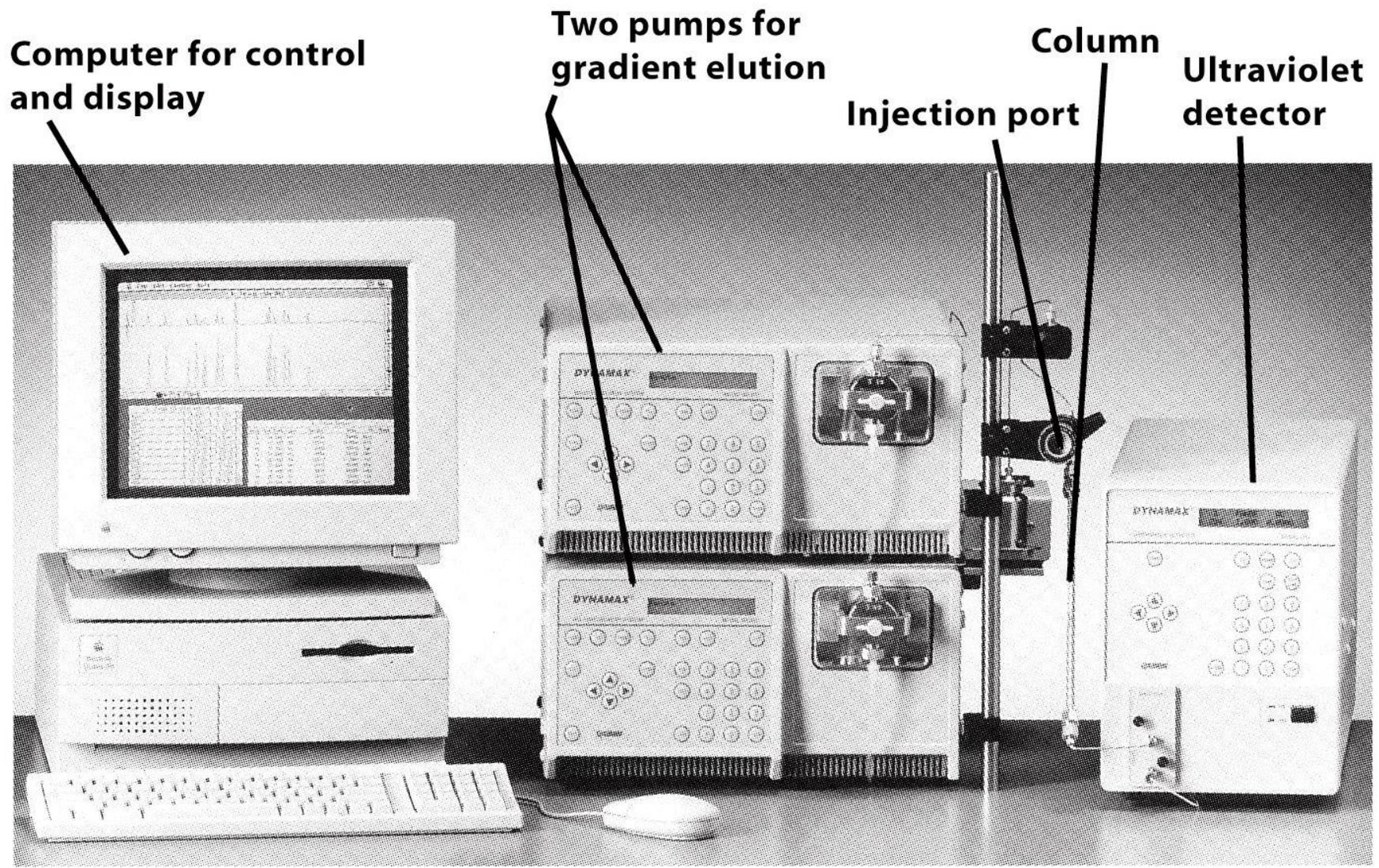


Fonte:  
<http://nutrigrazi.files.wordpress.com/2010/11/refrigerante.jpg>



Fonte:  
[http://www.alunosonline.com.br/upload/conteudo\\_legenda/a17b6816517e6f13be7a4653785a7ca2.jpg](http://www.alunosonline.com.br/upload/conteudo_legenda/a17b6816517e6f13be7a4653785a7ca2.jpg)

# Fundamentos instrumentais



**Figure 25-1**  
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# Fundamentos instrumentais

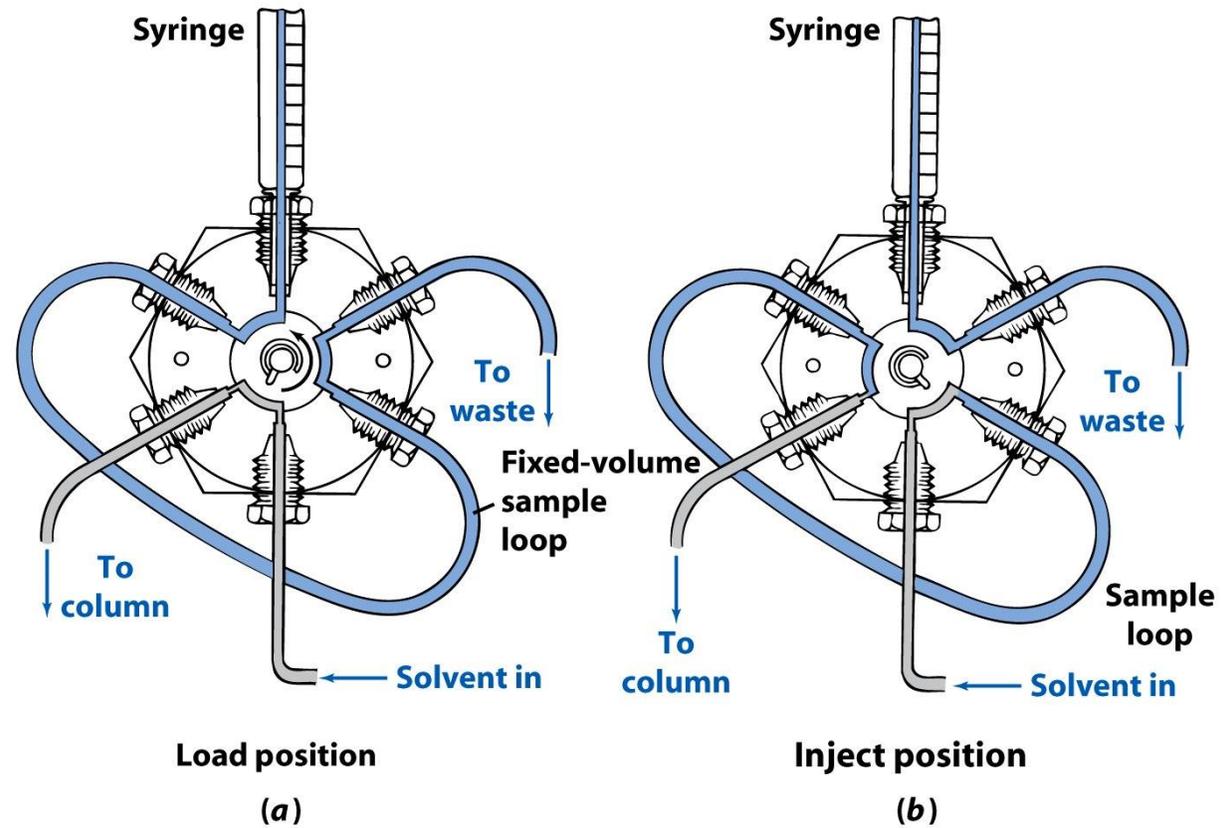
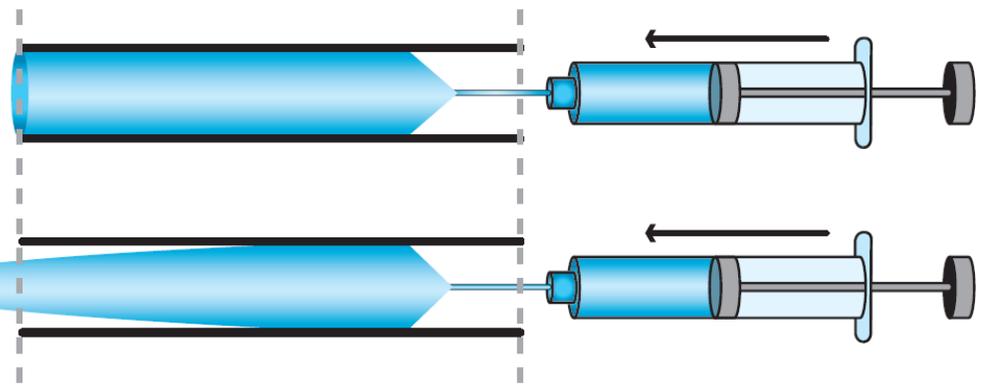


Figure 25-18  
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# Fluid dynamics



Partial filling—minimal sample loss

50  $\mu$ l load

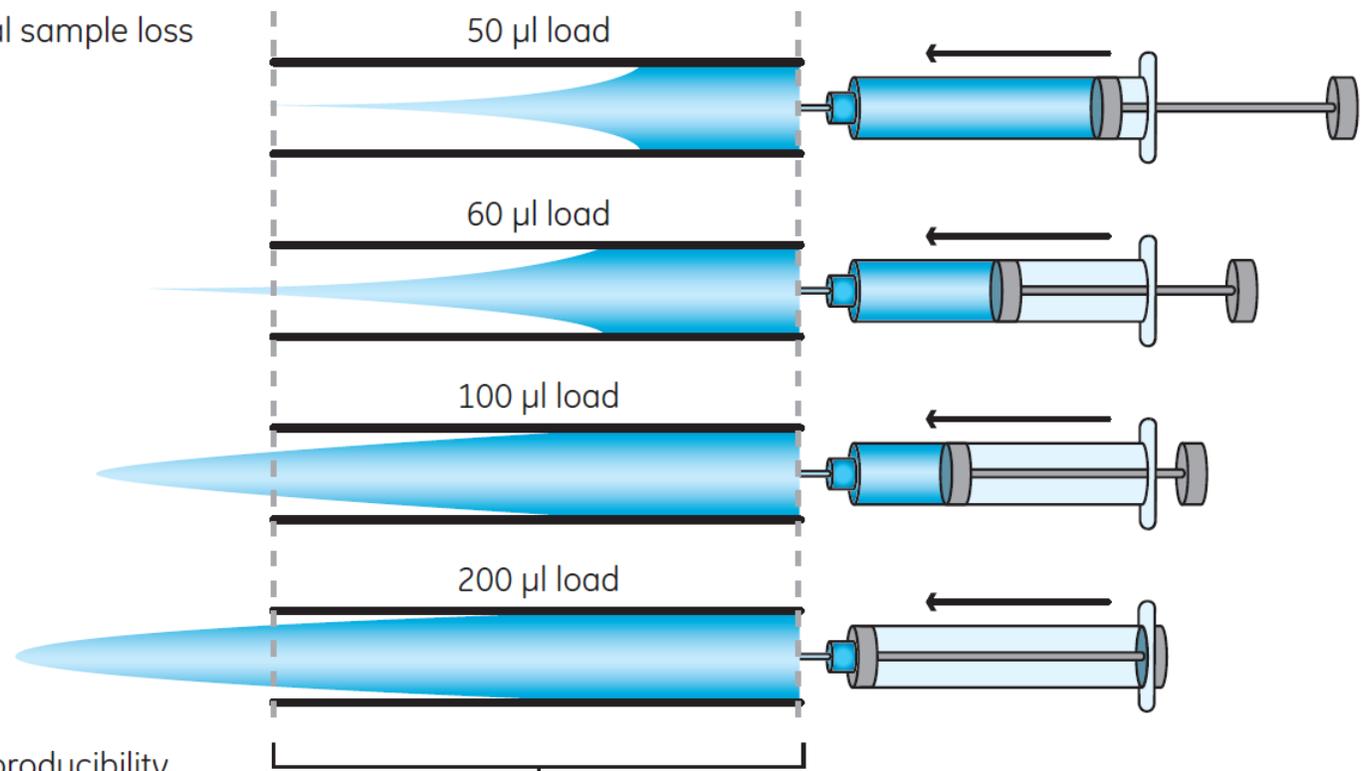
60  $\mu$ l load

100  $\mu$ l load

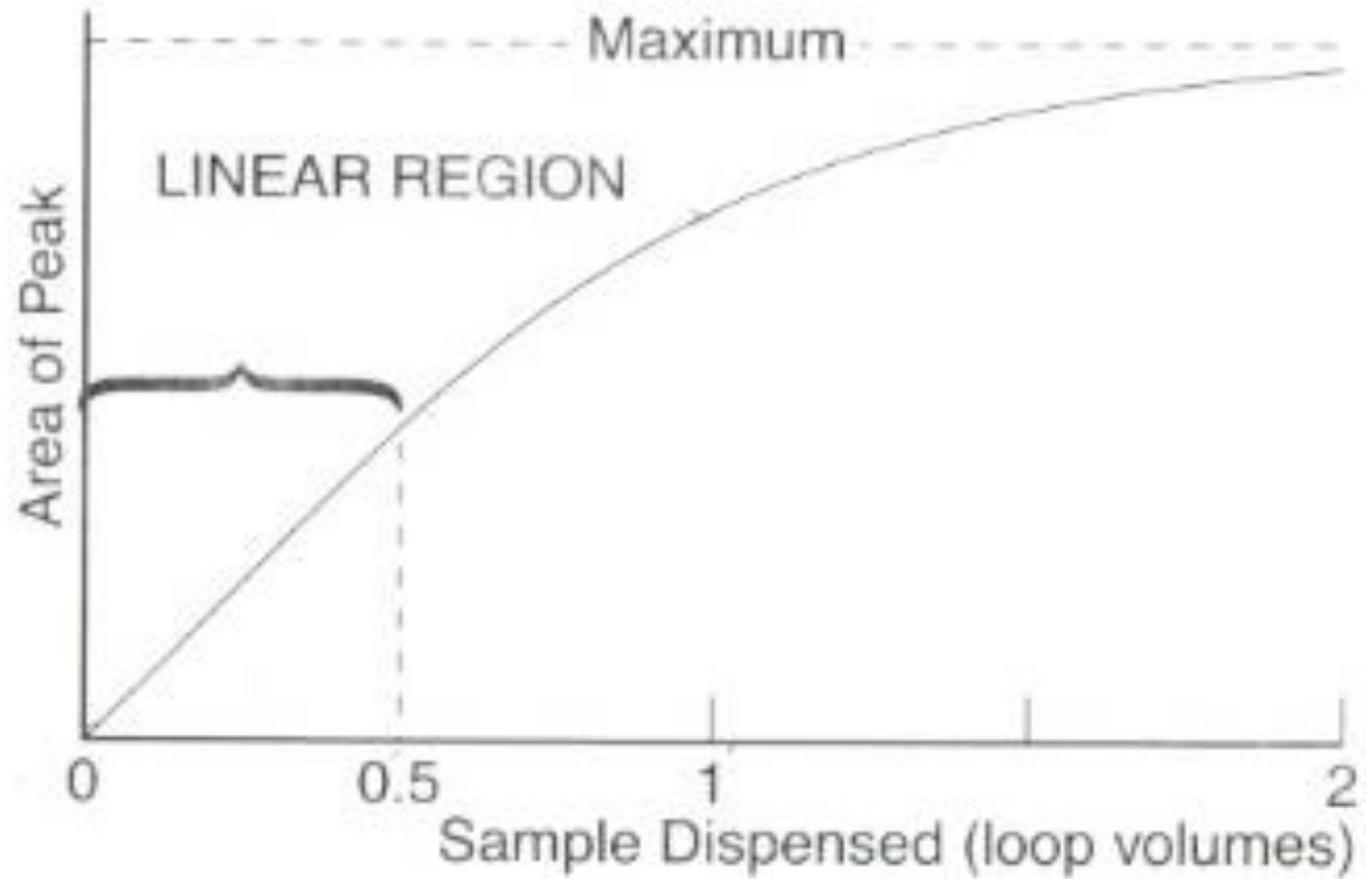
200  $\mu$ l load

Overfilling—high reproducibility

100  $\mu$ l sample loop



# Fundamentos instrumentais



# Fundamentos instrumentais

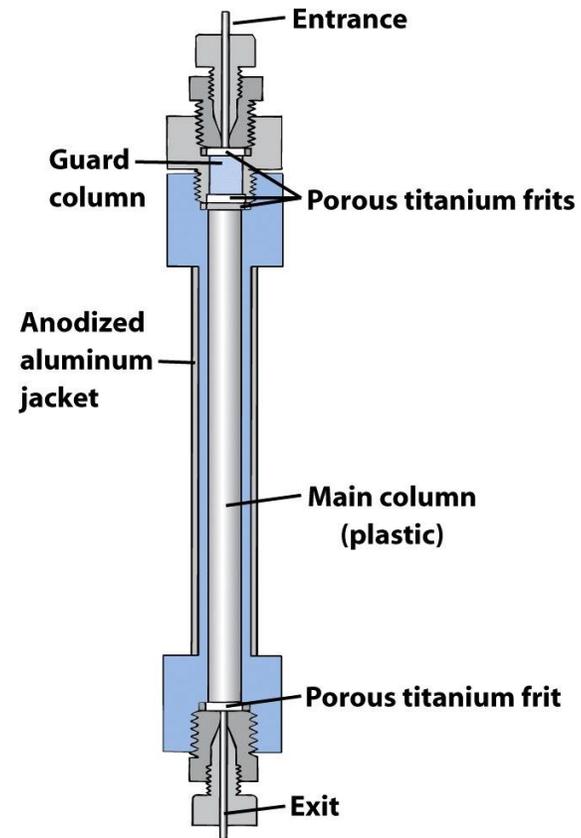
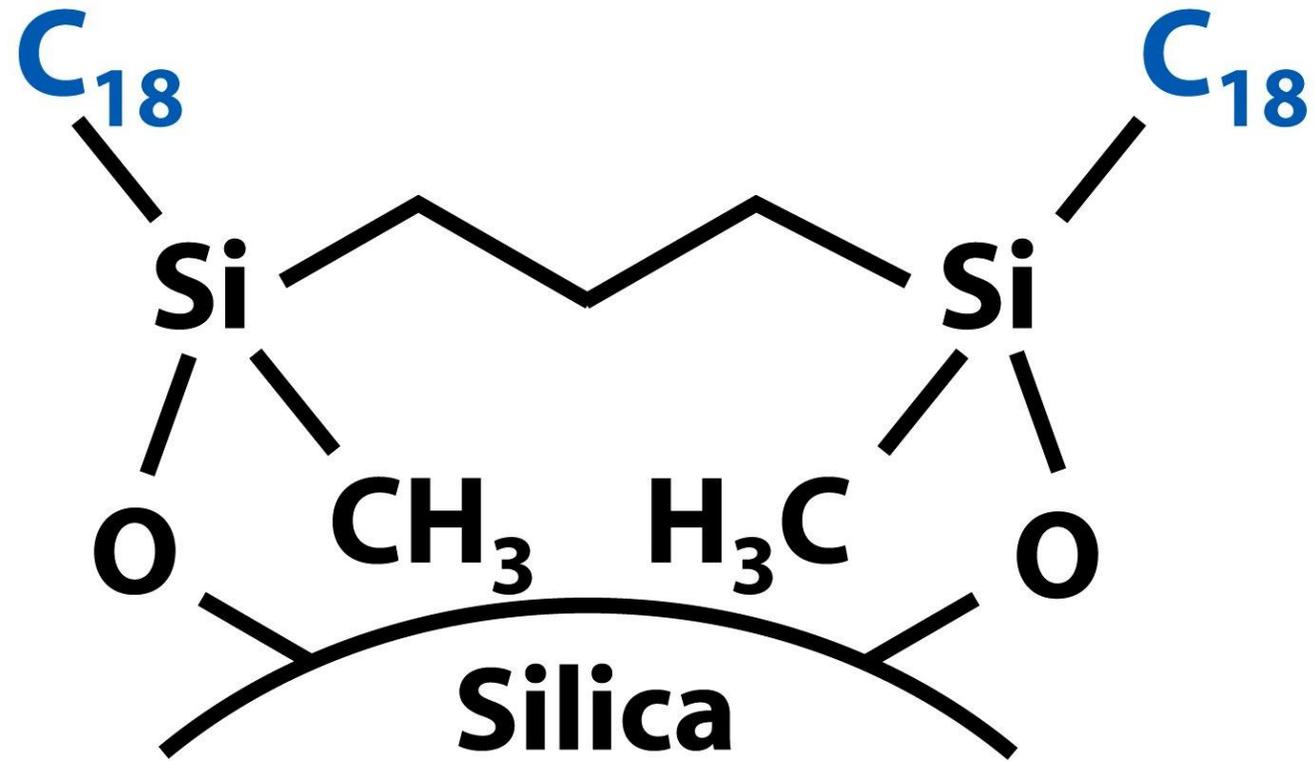


Figure 25-4  
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# Fundamentos instrumentais



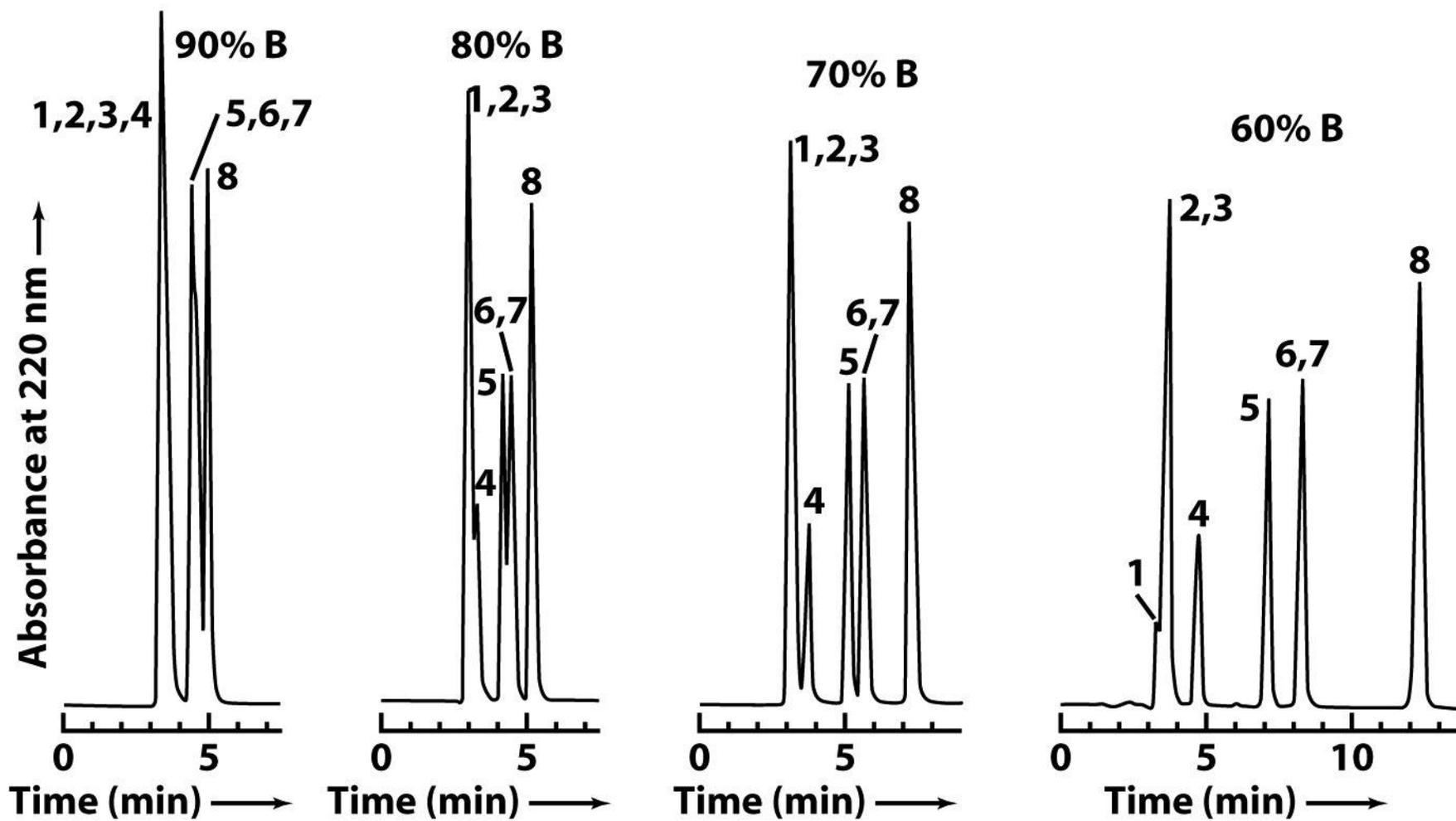


Figure 25-12 part 1  
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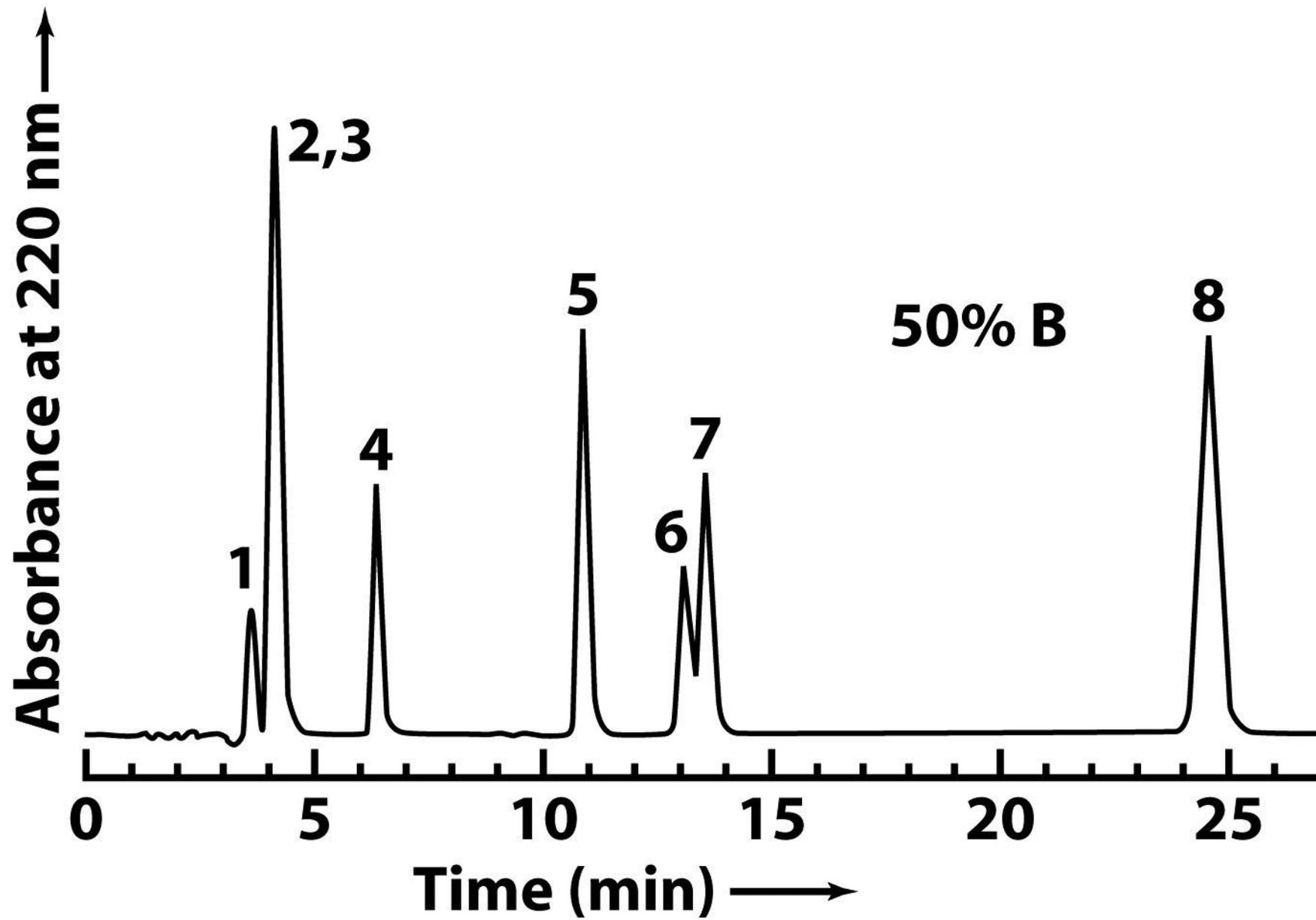


Figure 25-12 part 2  
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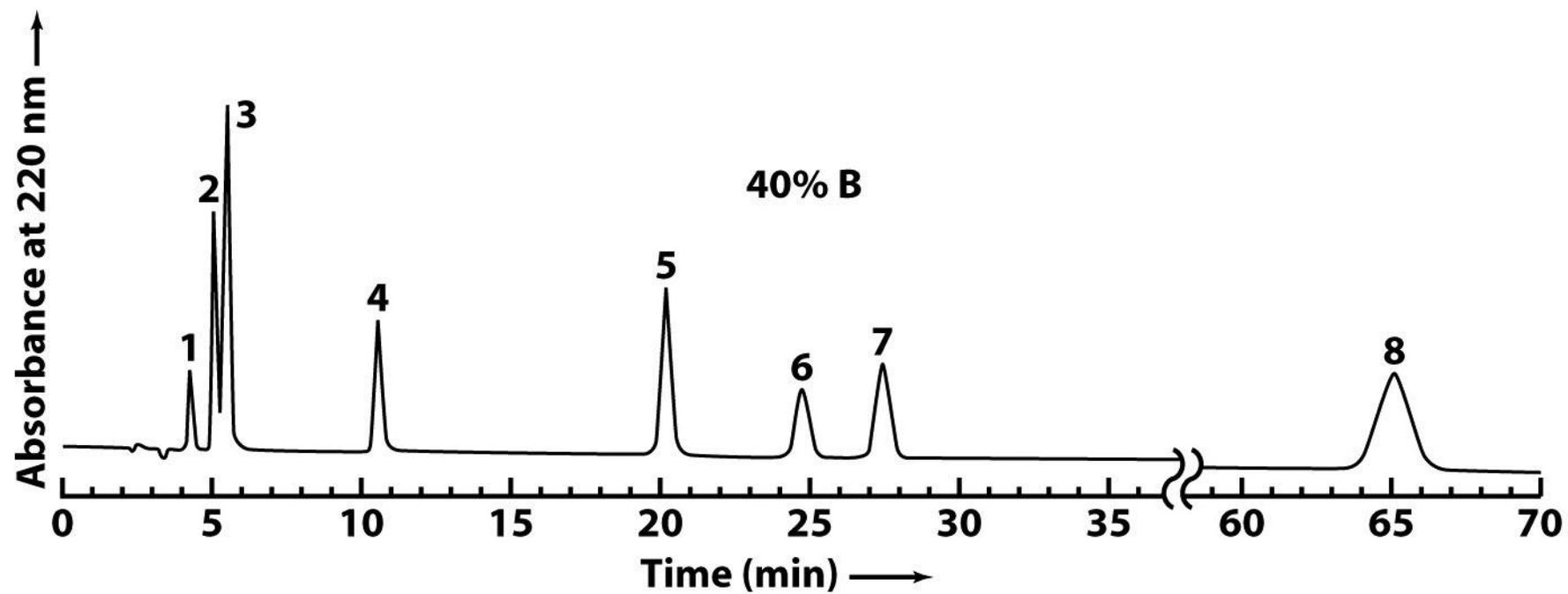


Figure 25-12 part 3  
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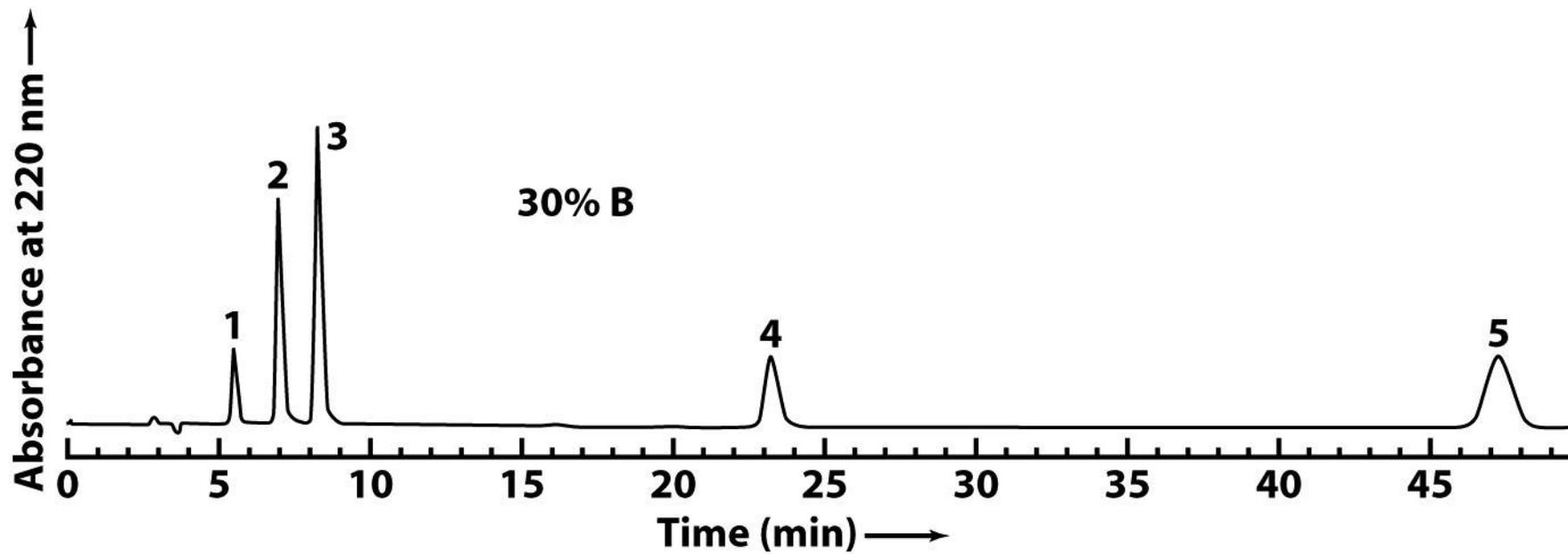


Figure 25-12 part 4  
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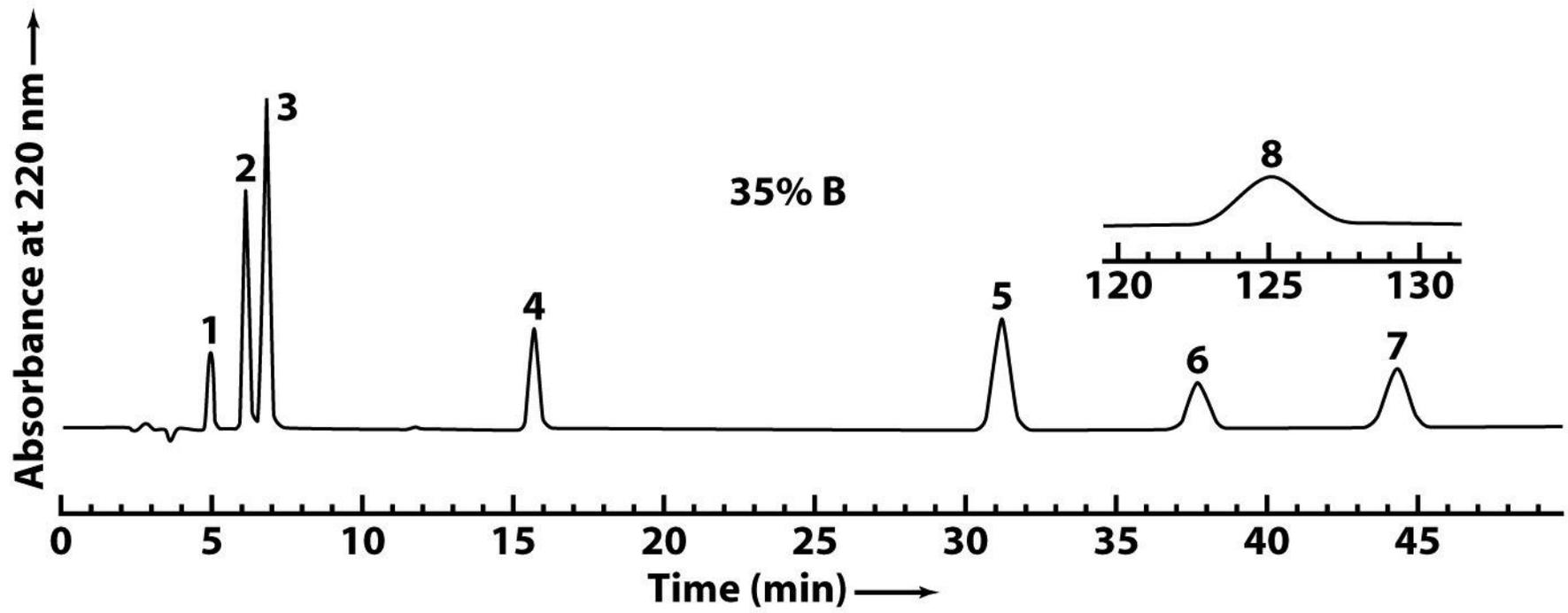


Figure 25-12 part 5  
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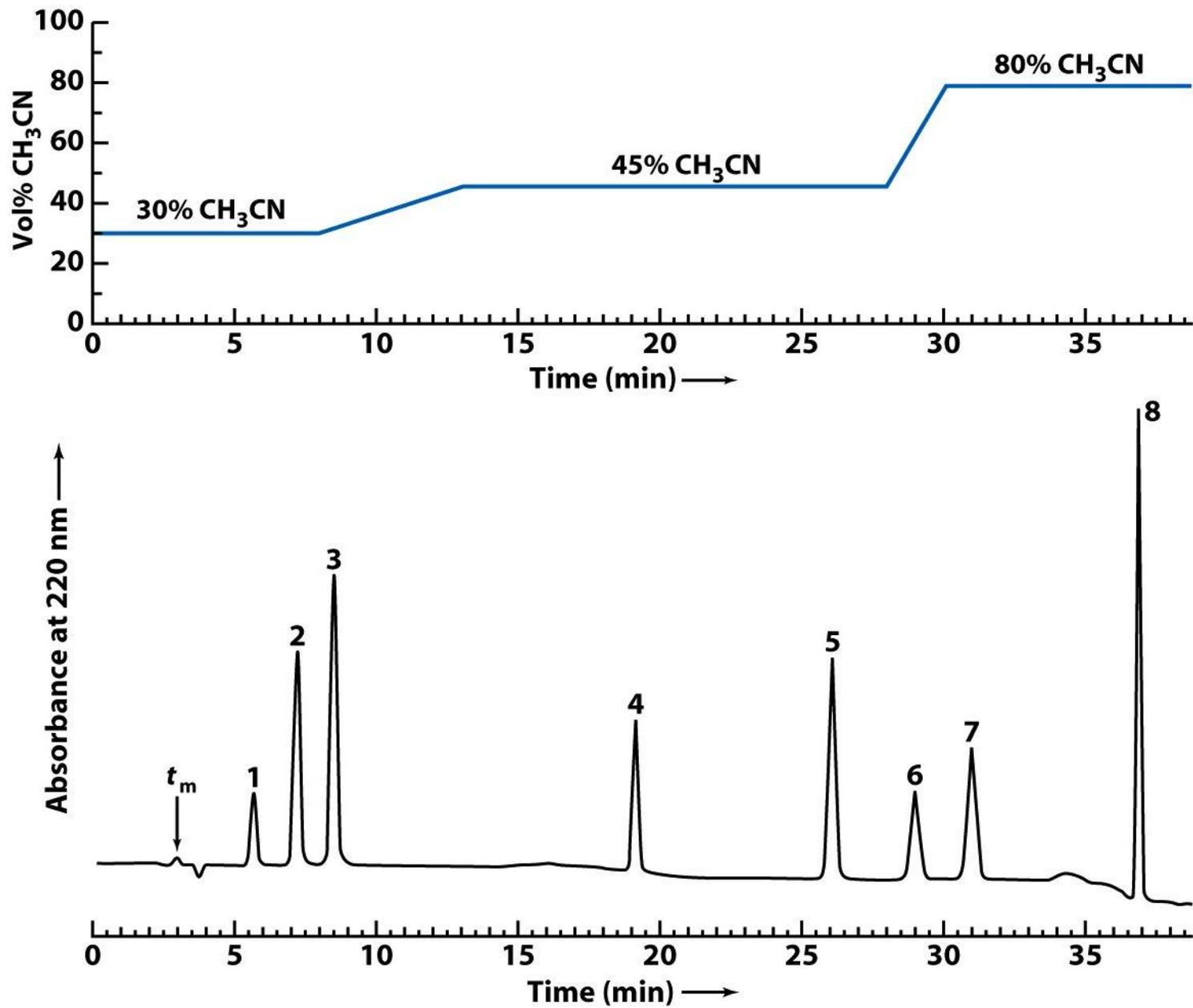
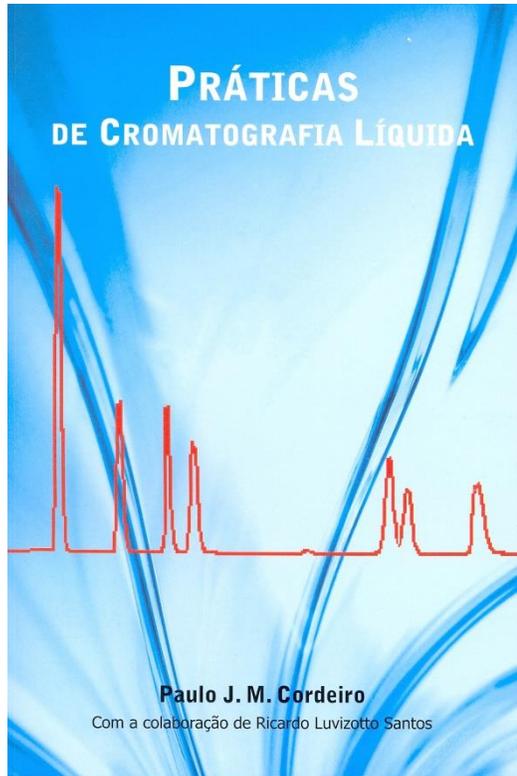


Figure 25-13  
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# Experimental

- Seguir roteiro simplificado e fundamental pelo livro:



# Experimental

- Preparar padrões de cafeína na faixa de concentração entre 1 e 50 mg mL<sup>-1</sup>, em água, a partir da solução estoque.
- Construir a curva de calibração injetando-se os padrões no HPLC.
- Diluir e analisar as amostras fornecidas (refrigerante de cola e café).