## Qualitative understanding of partition preferences

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An environmental sample shall be analyzed for ethylbenzene and phenol by gas chromatography. One finds that it is impossible to achieve a satisfying separation on an Apolane87 stationary phase (Apolane87 is a branched alkane). How should a stationary phase differ from Apolane in order to give a better separation of the two compounds?

## Answer:

**Ouestion:** 

13) Gas chromatography

The problem is due to the similar vdW interaction of both compounds and the fact that retention on a APOLAN phase is only caused by vdW interactions. Any stationary phase that is a H-bond acceptor with interact differently with both compounds and thus allow a separation.

