Qualitative understanding of partition preferences

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    - **Answer**
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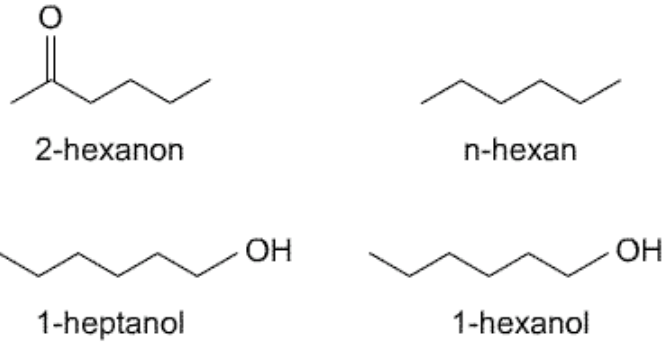
3) Assign partition constants to substances

This table provides logarithmic partition constants log $K_{iem>\ air/octanol}$

with $K_{i\ air/octanol} = C_{i\ air} / C_{i\ octanol}$) of the substances *i* = 2-Hexanone, n-Hexane, 1-Heptanol, 1-Hexanol, between air and the solvent octanol.

Substance *i*	Log K *i* air/octanol
i = ?	-2.1
i = ?	-3.8
i = ?	-5.3
i = ?	-5.8



Assign the partition constants to the substances and explain shortly what made you choose this particular substance.

Answer: Hexane should have the least tendency to partition from air to octanol because it is the smallest of all compounds (see Rule 8) and does not form H-bonds with octanol (log K_{iao} = -2.1); heptanol should have the largest tendency to partition from air to octanol because it is the largest of all compounds (see Rule 8) and it does form H-bonds with octanol as a H-bond acceptor and H-bond donor (log K_{iao} = -5.8). Assignment of the remaining compounds should be self evident.