

## Qualitative understanding of partition preferences

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## Other cases IIc

For all remaining cases, i.e. partitioning of mono- and bipolar solutes into mono- and bipolar phases we cannot derive any simple rule because here H-bonds occur both in the cavity energy and in the interaction energy between solute and phase so that they partially cancel. It is not always a simple task to predict which ones dominate.

**For an extreme case, however, we can still set up an additional, valuable rule (although this cannot be derived here):**

### Rule 4:

Almost all organic compounds prefer all organic phases over water due to the strong cavity effect in water. (Exceptions are small polar molecules and ionic organic molecules )

