

## Equilibrium partitioning of organic compounds

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# Question 5

A system with an oil phase and a water phase contains a very tiny amount of chemical A. Now you add another chemical, B. Will the partitioning of B in the system be influenced by the presence of A?

**Help:** What does the situation look like when you add only chemical B to the system in tiny amounts? What exactly determines the partition constant between two phases?

**Answer:** The presence of A has no effect on the partitioning of B. This is due to the fact that A is present in such a low concentration (i.e., it is so dilute) that it does not interact with B because molecules of A and B hardly ever meet in the phases. Hence, the partition behavior of B is only determined by its interactions with the two phases oil and water.



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