

- Quinine is a natural product that has anti-malarial properties. It was originally extracted for therapeutic use from the bark of the cinchona tree, but is now synthesised by the pharmaceutical industry. Quinine is not very soluble in water and is generally administered as the more soluble hydrochloride salt ($C_{20}H_{24}N_2O_2 \cdot HCl$). The pK_a of this salt is 4.32. What is the pH of a 0.053 M solution of quinine hydrochloride?

Marks
3

Answer:

- Use chemical equations to illustrate how $HPO_4^{2-}/H_2PO_4^-$ can act as a buffer.

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