CONCEPT: SOLUBILITY AND INTERMOLECULAR FORCES

According to the theory of _____ dissolves _____ compounds with the same intermolecular force or polarity will dissolve into each other.

EXAMPLE: Identify the intermolecular forces present in both the solute and the solvent, and predict whether a solution will form between the two.

a) CCl_4 and P_4

b) CH_3OH and C_6H_6

c) $C_6H_5CH_2NH_2$ and HF

d) IF_4^- and NH_3

PRACTICE: Which of the following statements is/are true?

a. Methane will dissolve completely in acetone, CH_3COCH_3.

b. Hydrofluoric acid (HF) will form a heterogeneous mixture with tetrachloride, CCl_4.

c. Pentane will form a homogeneous mixture with CBr_4.

d. Methanethiol (CH_3SH) is miscible in fluoromethane (CH_3F).