Solubility of Sweeteners as temperature and solvent ratio

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Solubility studies are essential to crystallize sweeteners, as crystals of sweeteners are produced by differences of solubility in temperature and mixed solvent proportions. Solubilities were measured by varying the ratio of temperature and main solvent of mixed solvent. Three sweeteners (A, B, C) were used. Two mixed solvents (Solvent 1 and Solvent 3, Solvent 2 and Solvent 3) were used as the solvent. The temperature was maintained for about 3 hours or more using a thermostat. The same procedure to measure the solubility was repeated three times to reduce the error. As a result, the higher the temperature, the higher the solubility value of all A, B and C materials. The solubilities of all sweeteners of mixed solvent of Solvent 2 and Solvent 3 was higher than those of mixed solvent of Solvent 1 and Solvent 3. The solubility of sweetener A has higher value as the ratio of Solvent 1 in mixture is smaller. The same result is obtained in mixed solvents of Solvent 2. In the case of B and C, the highest solubility value is obtained when the ratio of Solvent 1 in the mixed solvent and the ratio of Solvent 2 in the mixed solvent is 60%.