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$$m_F = 135 \text{ kg} \quad \text{etanol-voda}$$

$$x_F = 0,65 \text{ hm\%}$$

$$x_w = 0,05 \text{ hm\%}$$

$$\alpha_{AB} = \frac{y/x}{(1-y)/(1-x)}$$

$$\alpha_{AB}^1 = \frac{0,8099/0,65}{(1-0,8099)/(1-0,65)} = 2,294$$

$$\alpha_{AB}^2 = \frac{0,3940/0,05}{(1-0,3940)/(1-0,05)} = \frac{0,3940/0,05}{0,606/0,95} = 12,35$$

$$\alpha = \sqrt{\alpha^1 \cdot \alpha^2} = 5,32$$

$$\ln \frac{m_F}{m_w} = \frac{1}{\alpha_{AB} - 1} \ln \frac{x_{AF}(1-x_{AW})}{x_{AW}(1-x_{AF})} + \ln \frac{1-x_{AW}}{1-x_{AF}}$$

$$\ln \frac{m_F}{m_w} = \frac{1}{5,32} \ln \frac{0,65 \cdot (0,95)}{0,05 \cdot (0,35)} + \ln \frac{0,95}{0,35}$$

$$\ln \frac{m_F}{m_w} = 1,8234$$

$$\ln m_F - \ln m_w = 1,8234$$

$$\ln m_w = \ln m_F - 1,8234 = 3,08$$

$$m_w = 21,79$$

$$m_b = 113,21$$

$$x_{AD} = \frac{135 \cdot 0,65 - 113,21 \cdot 21,79 \cdot 0,05}{113,21} = \underline{\underline{0,765}}$$

etanol - butanol  
metanol - voda