

Centrifugace

$$F_s = m \cdot a = M \cdot (1 - \forall \cdot \rho_l) \cdot \omega^2 \cdot x$$

$$F_f = v \cdot f; \quad f = RT/D \cdot N_A$$

$$v = M \cdot (1 - \forall \cdot \rho_l) \cdot \omega^2 \cdot x \cdot D \cdot N_A / RT$$

$$v = dx/dt = M_r \cdot (1 - \forall \cdot \rho_l) \cdot \omega^2 \cdot x \cdot D / RT$$

$$s = (dx/dt) \cdot (1/\omega^2 \cdot x) = M_r \cdot (1 - \forall \cdot \rho_l) \cdot D / RT$$

$$M_r = s \cdot RT/D \cdot (1/(1 - \forall \cdot \rho_l))$$

$$s = (d \ln x/dt) \cdot (1/\omega^2) \quad 1 \text{ S} = 10^{-13} \text{ s}$$

$$(dm/dt)_s = v \cdot c \cdot A = c \cdot A \cdot s \cdot \omega^2 \cdot x$$

$$(dm/dt)_d = D \cdot A \cdot dc/dx$$

$$D = (c/dc) \cdot dx \cdot s \cdot \omega^2 \cdot x = (1/d \ln c) \cdot (d(x^2)/2) \cdot s \cdot \omega^2$$

$$M_r = 2 RT \cdot (d \ln c/dx^2) \cdot (1/(1 - \forall \cdot \rho_l))$$