

$$\Delta U = dq - pdV \quad \text{adiabatni } dq=0$$

$$\Delta U = dw + dq \quad \text{izoter-adiab } dU=0$$

$$\Delta w = -pdV$$

$$\Delta U = n \int C_{v,m} dT \quad (dH = C_{p,m})$$

$$C_p = R + C_v$$

$$\gamma = C_p / C_v$$

$$\Delta U = TdS - PdV \quad (dU = C_v dT \quad p/T = nRV)$$

$$\Delta S = -R(n_1 \ln x_1 + n_2 \ln x_2 \dots)$$

$$\Delta S = nR \ln V_2/V_1 + C_v \ln T_2/T_1 \quad \text{idealen}$$

$$\Delta S_{\text{tal}} = \Delta H_t / T_t$$

$$\Delta S_{\text{seg}} = C_p \ln t_2/t_1$$

$$\alpha = 1/V_m (\sigma V_m / \sigma T)_p \quad \text{volumski raz}$$

$$\beta = 1/V_m (\sigma V_m / \sigma p)_t \quad \text{stisljivostni}$$

$$\gamma = 1/p (\sigma p / \sigma T)_v \quad \text{napetostni}$$

$$dV_m = \alpha V_m dT - \beta V_m dp$$

$$p = p_r p_k = p_r a / 27b^2$$

$$T = T_r T_k = T_r 8a / 27bR$$

$$V_m = V_{m,r} V_{m,k} = V_r 3b$$

$$dq_v = dU$$

$$dq_p = dH$$

$$\mu_{JT} = \Delta T / \Delta p$$

$$1N = \text{kg m s}^{-2}$$

$$1Pa = \text{Nm}^{-2}$$

$$1J = \text{N m}$$