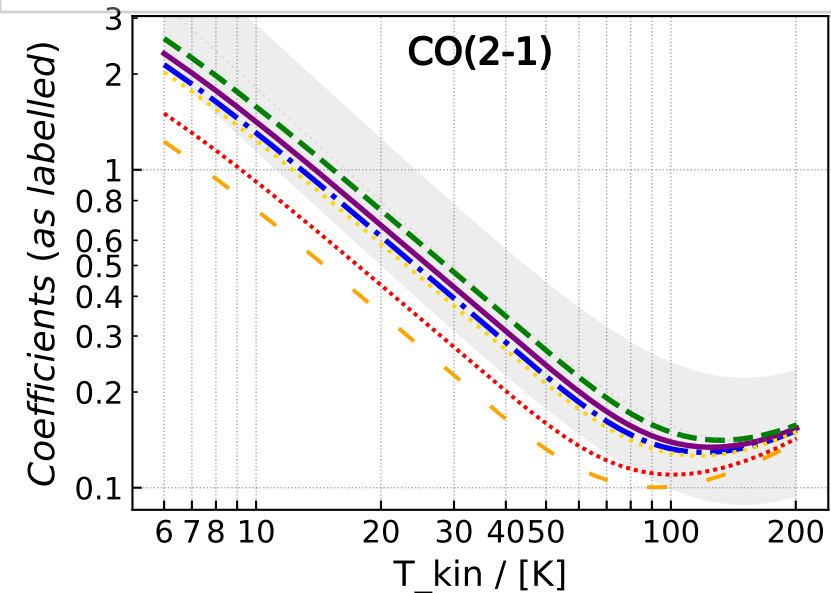


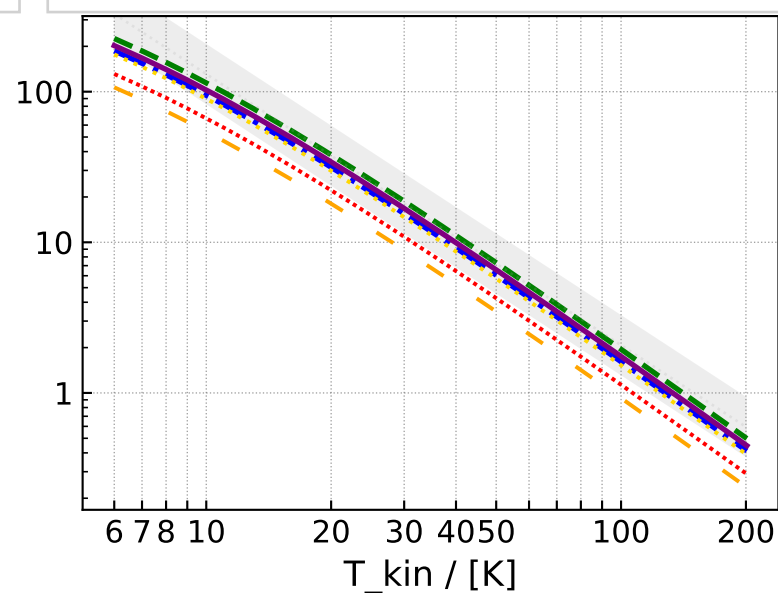
$$\alpha_{\text{CO}(2-1)}^{\text{no Helium}} = 0.16 \times [(2 T_{\text{kin}} / 5.53 + 5.02) / 100] \times [(\tau_{\text{CO}(2-1)} / (1 - e^{-\tau_{\text{CO}(2-1)})})]$$

Approx. =  $0.07 [1 + (T_{\text{kin}} / 150)^{2.4}] (T_{\text{kin}} / 150)^{-1.2} \times (3 \times 10^{-4}) / ([\text{CO}/\text{H}_2])$



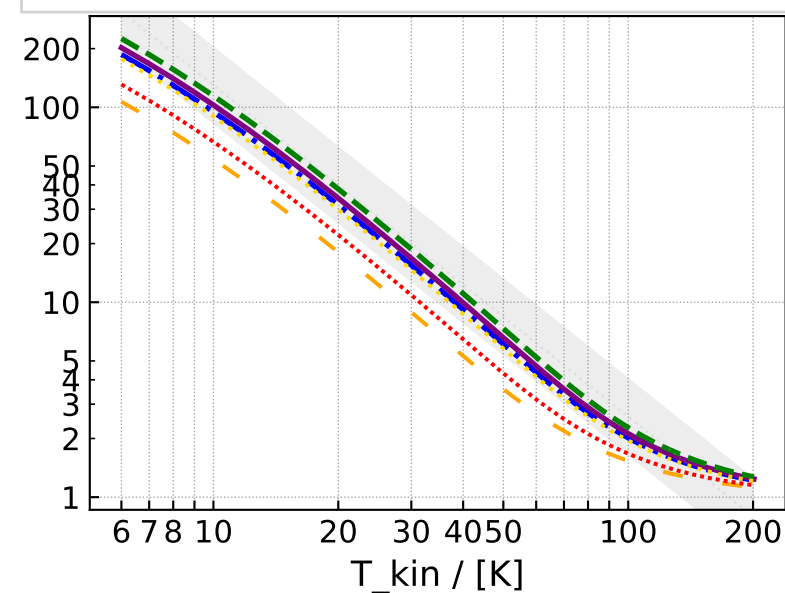
Coeff.:  $\tau_{\text{CO}(2-1)}$

Approx.:  $y = (T_{\text{kin}} / 150)^{-1.8} [\pm 0.2 \text{ dex}]$



Coeff.:  $\tau_{\text{CO}(2-1)} / (1 - e^{-\tau_{\text{CO}(2-1)}})$

Approx.:  $y = 1.3 (T_{\text{kin}} / 150)^{-1.7} [\pm 0.2 \text{ dex}]$



- $N_{\text{CO}} = 7.9\text{e}17, \Sigma_{\text{H}_2} = 42, \Delta v = 4$
- $N_{\text{CO}} / \Delta v = 2.0\text{e}17$
- $N_{\text{CO}} = 2.1\text{e}18, \Sigma_{\text{H}_2} = 115, \Delta v = 10$
- $N_{\text{CO}} / \Delta v = 2.1\text{e}17$
- - -  $N_{\text{CO}} = 4.8\text{e}18, \Sigma_{\text{H}_2} = 255, \Delta v = 20$
- $N_{\text{CO}} / \Delta v = 2.4\text{e}17$
- ...  $N_{\text{CO}} = 1.1\text{e}19, \Sigma_{\text{H}_2} = 600, \Delta v = 60$
- $N_{\text{CO}} / \Delta v = 1.9\text{e}17$
- . -  $N_{\text{CO}} = 5.7\text{e}18, \Sigma_{\text{H}_2} = 303, \Delta v = 50$
- $N_{\text{CO}} / \Delta v = 1.1\text{e}17$
- ...  $N_{\text{CO}} = 1.3\text{e}19, \Sigma_{\text{H}_2} = 668, \Delta v = 90$
- $N_{\text{CO}} / \Delta v = 1.4\text{e}17$