Equivalence representation of C_{2v}

$$\chi_v = (N_a - 2)(1 + 2\cos\theta)$$

Identity (I): $N_a = N$, $\theta = 0 \Rightarrow$

$$\chi_v(I) = 3$$

. C_2 contains 1 oxygen: $\Rightarrow N_a = 1,\ \theta = 180 \Rightarrow$

$$\chi_v(C_2) = -1(1 - 2) = 1$$

σ_v leaves all atoms intact$\Rightarrow$

$$\chi_v(\sigma_v) = \chi_v(I) = 3$$

σ'_v is equivalent to $C_2 \Rightarrow$

$$\chi_v(\sigma'_v) = \chi_v(C_2) = 1$$

C_{2v}	I	C_2	σ_v	σ'_v
G_{eq}	3	1	3	1