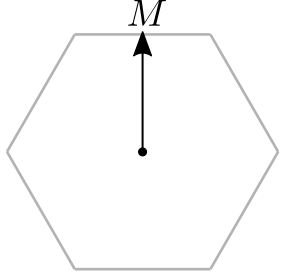
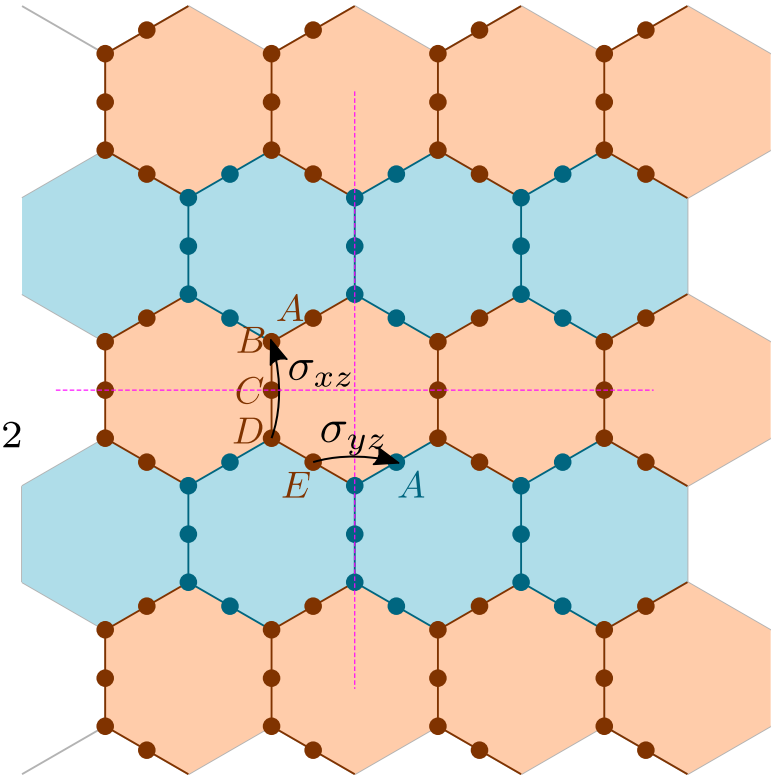
a)

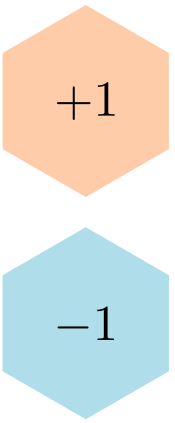


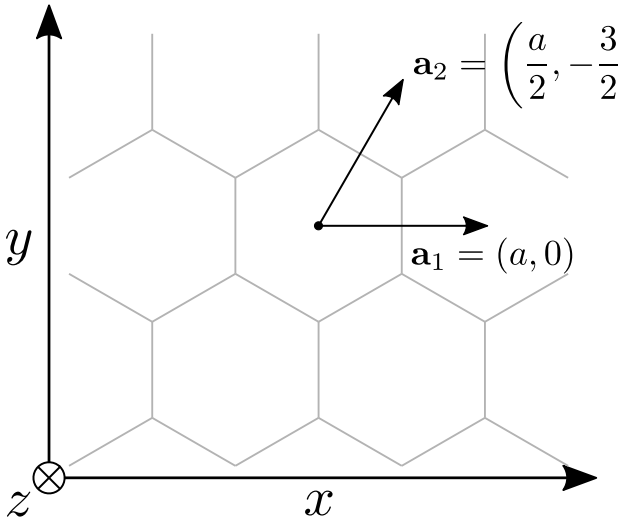
$$\mathbf{k} = M = \left(0, \frac{2\pi}{\sqrt{3}a}\right)$$

Point group symmetry D_2

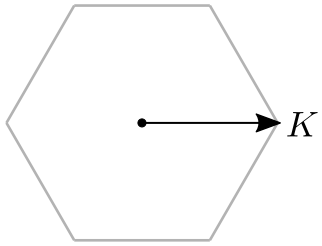


Phase factors



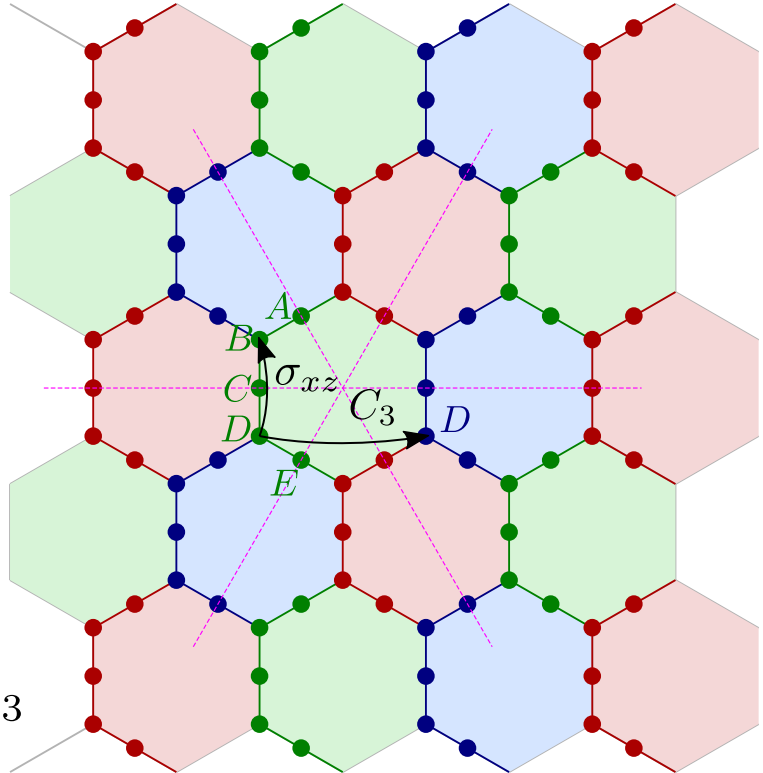
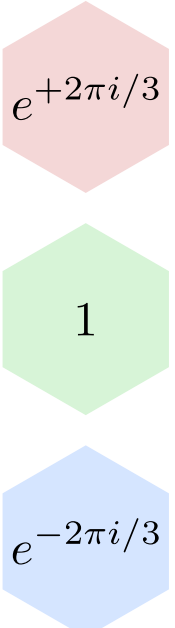


b)



$$\mathbf{k} = K = \left(\frac{4\pi}{3a}, 0\right)$$

Point group symmetry D_3



Phase factors