(a)
$$\epsilon = \sum_{m \in \mathbb{N}} c_x^{m^2} + c_y^{m^2} \qquad \text{Library of structures}$$

$$\overrightarrow{\Phi}_{x}, \overrightarrow{\Phi}_{y} \qquad \text{F.T.} \qquad \{c_x^m, c_y^m\} \qquad \text{Gradient-free method} \qquad \qquad \text{Final geometry}$$
 Initial random guess