

$$\mathbf{X}^{\text{ctrl}} = \mathbf{Z}^{\text{ctrl}} (\mathbf{U}^{\text{ctrl}})^{\text{T}} \quad , \quad z_{ij}^{\text{ctrl}} \sim \mathcal{N}(0, 1)$$

$$\mathbf{X}^{\text{case}} = \mathbf{Z}^{\text{case}} (\mathbf{U}^{\text{case}})^{\text{T}} \quad , \quad z_{ij}^{\text{case}} \sim \mathcal{N}(0, 1)$$

$$\mathbf{Y}^{\text{norm}} = \begin{bmatrix} \mathbf{X}^{\text{ctrl}} \\ \hline \mathbf{X}^{\text{case}} \end{bmatrix}$$

$$\mathbf{Y}^{\text{unif}} = \Phi(\mathbf{Y}^{\text{cont}})$$