$$\tilde{\Sigma} = \{\lambda \Sigma : \lambda > 0\}$$

$$\tilde{\Sigma}_1 \qquad \rho_H(C_1, C_2) = \log \frac{\lambda_{\min}(C_1 C_2^{-1})}{\lambda_{\max}(C_1 C_2^{-1})}$$

$$\tilde{\rho}_H(\tilde{\Sigma}_1, \tilde{\Sigma}_2) = \log \frac{\lambda_{\min}(\Sigma_1 \Sigma_2^{-1})}{\lambda_{\max}(\Sigma_1 \Sigma_2^{-1})}$$

$$\tilde{\Sigma}_2$$

$$\tilde{\Sigma}_2$$

$$\tilde{\Sigma}_2$$
Elliptope
$$\{C \in \mathcal{C}_{\mathrm{SPD}} : C_{ii} = 1\}$$