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$$\begin{aligned} (\because D(\mathcal{C}A + \mathcal{C}B)^{\frac{1}{n}} &= D(\mathcal{C}(A + B))^{\frac{1}{n}} = D(A + B)^{\frac{n-1}{n}} (\because 1 \text{ of Proposition??)}) \\ &\geq D(\mathcal{C}A)^{\frac{1}{n}} + D(\mathcal{C}B)^{\frac{1}{n}} \\ (\because \text{Theorem??The Brunn-Minkowski inequality}) \\ &= D(A)^{\frac{n-1}{n}} + D(B)^{\frac{n-1}{n}} \end{aligned}$$