AlignBugTest2

$$\left((\boldsymbol{\mu}^T \boldsymbol{\Sigma}^{-1} \mid \alpha - \boldsymbol{\mu}^T \boldsymbol{\Sigma}^{-1} \mathbf{1}_d) - \mathbf{1}_{d+1}^T \right) \log(\mathbf{x})$$

$$= \left(\left[\boldsymbol{\mu}^T \boldsymbol{\Sigma}^{-1} + \left(\frac{\alpha}{d+1} - \frac{\alpha}{d+1} \right) \mathbf{1}_d^T \middle| \left(\frac{d\,\alpha}{d+1} + \frac{\alpha}{d+1} \right) - \boldsymbol{\mu}^T \boldsymbol{\Sigma}^{-1} \mathbf{1}_d \right] - \mathbf{1}_{d+1}^T \right) \log(\mathbf{x})$$

$$= \left(\boldsymbol{\mu}^T \boldsymbol{\Sigma}^{-1} - \frac{\alpha}{d+1} \, \mathbf{1}_d^T \right) \mathbf{y} + \left(\frac{\alpha}{d+1} - 1 \right) \sum_{i=1}^{d+1} \log(x_i) \tag{1}$$

\end{align}