$$\nu^{\boldsymbol{\sigma}}(d\boldsymbol{\sigma}) \propto \prod_{k=1}^{N_d} \sigma_k^{-\alpha_k^0 - \frac{3}{2}} \exp\left(-\frac{\beta_k^0 + \frac{1}{2}\mathbb{E}^{\nu^u}[(d_k - (Hu)_k)^2]}{\sigma_k}\right) d\boldsymbol{\sigma},$$