$$P_N(R_g) = C_g \exp\left[-a_1 \left(\frac{\ell_b N^{\nu}}{R_g}\right)^{\alpha d} - a_2 \left(-\frac{R_g}{\ell_b N^{\nu}}\right)^{\delta}\right] P_N(r_g) = A_g \exp\left(-a_1 r_g^{-\alpha d} - a_2 r_g^{\delta}\right)$$