A quasi -chemical nonrandom lattice fluid model for phase equilibria has both inter - and intra - hydrogen bonds

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This study shows improved QALF model for the binary system of vapor -liquid equilibria(VLE) has both inter - and intra - hydrogen bonds. Alkoxyethanol such as C3E1 and C4E1 has associating groups so that it shows a highly non -ideal phase behavior due to the H-bond interaction. Although original QALF model is already considered associating effect, it does not include the effect of both inter - and intra - hydrogen bonds. So, we applied the LFHB model to the QALF model. Moreover, we included density term in order to solve the problem of ideal gas limit. Our previous experimental systems were correlated using this improved model.