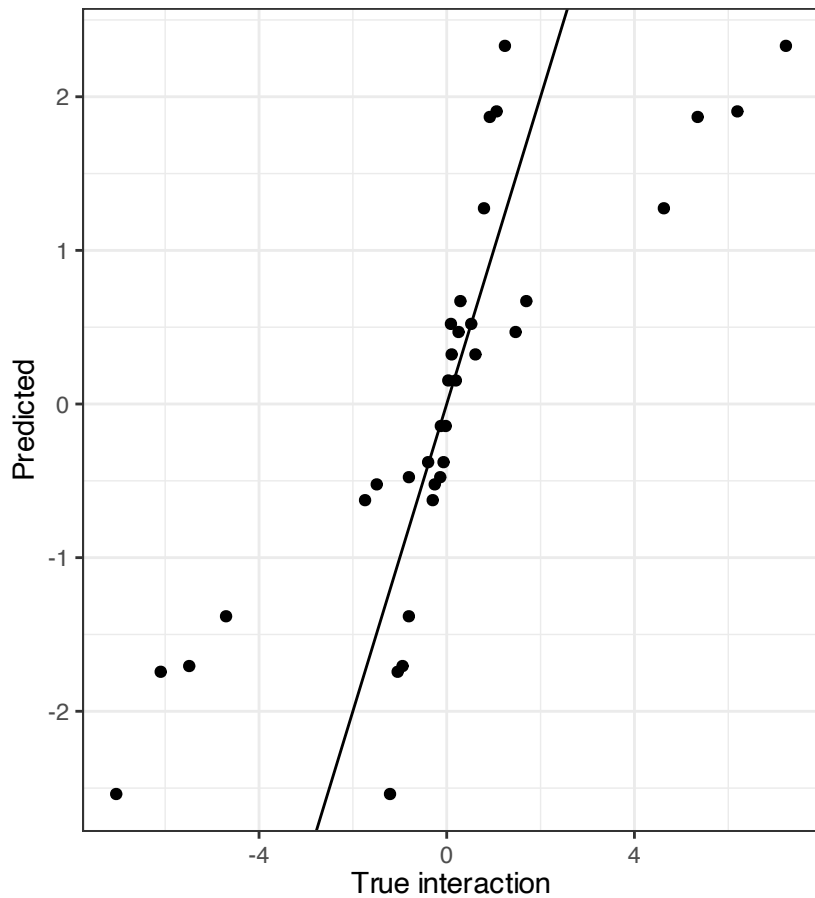
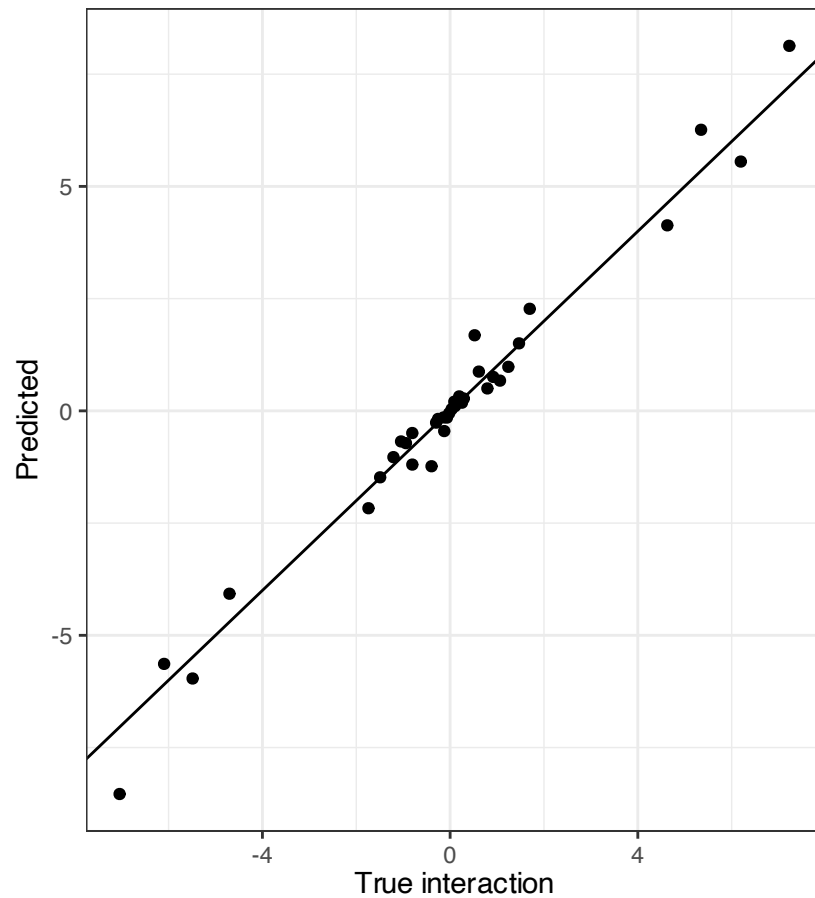


Model 1:  $\sum_q^Q \lambda_q \beta_{iq}^{(1)} \beta_{jq}^{(2)}$  - RMSE = 1.9845



Model 2:  $\sum_q^{Q_1} \lambda_q^{(1)} \beta_{iq}^{(1)} \beta_{jq}^{(2)} + \sum_q^{Q_2} \lambda_q^{(2)} \beta_{iq}^{(1)} \beta_{jq}^{(2)} \beta_{kq}^{(3)}$  -



Model 3:  $\sum_q^Q \lambda_q \beta_{iq}^{(1)} \beta_{jq}^{(2)} \beta_{kq}^{(3)}$  - RMSE = 2.5945

