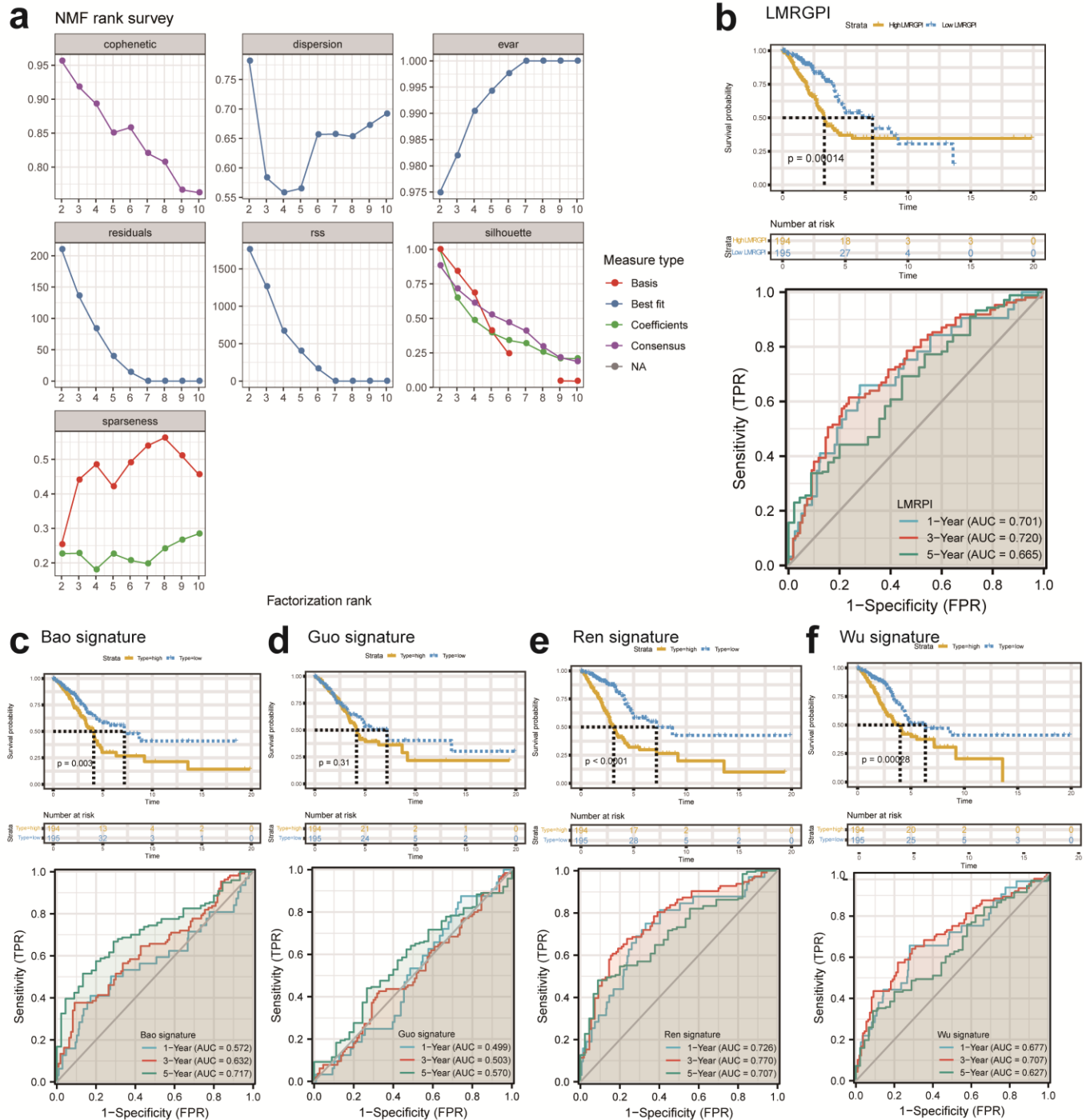
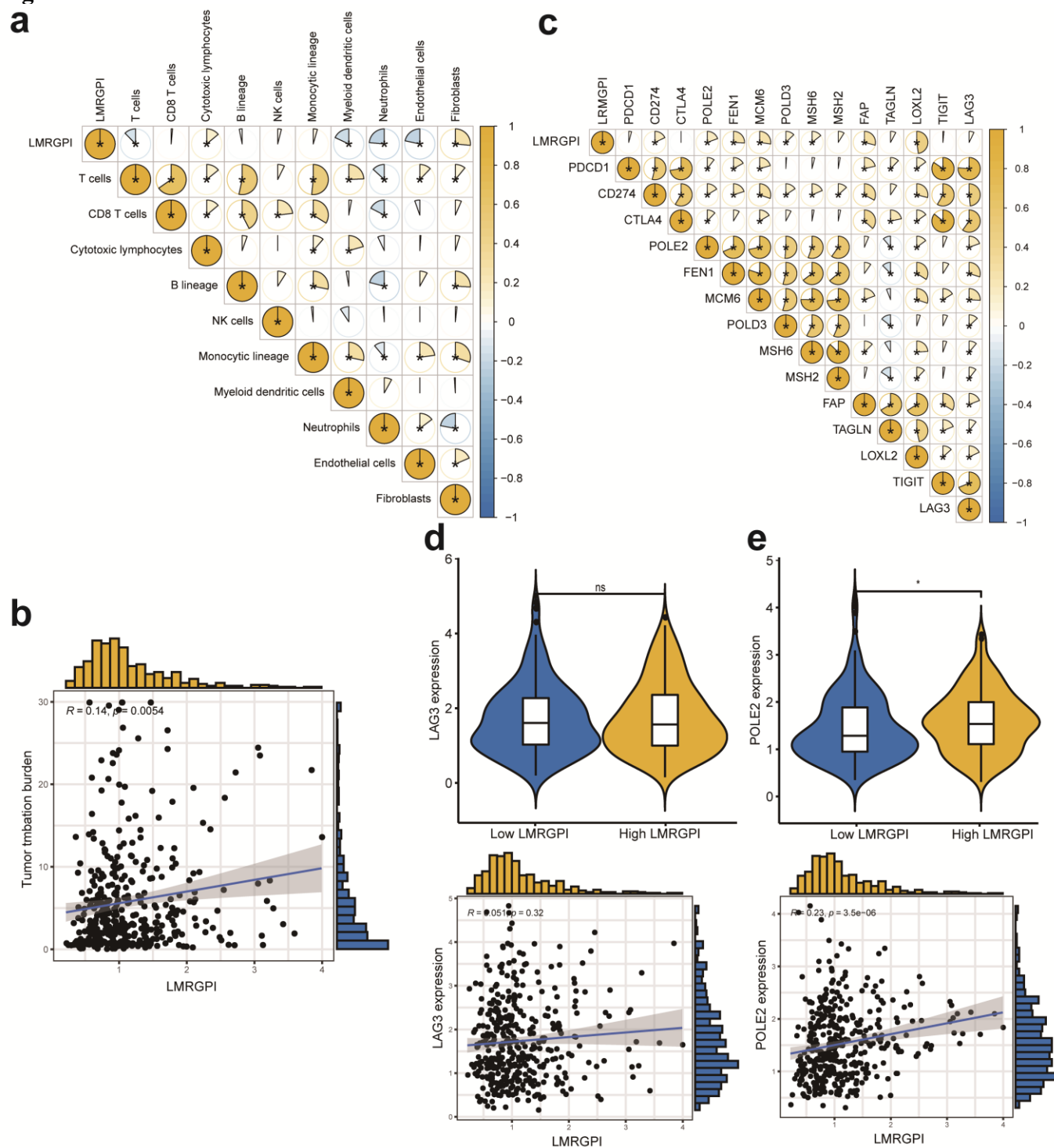


**Figure S1**



**Figure S1. (a)** The process of subtypes classification using NMF. **(b-f)** Kaplan-Meier survival analysis and ROC analysis of LMRGPI and other pre-existing prognostic models in predicting the OS of early-stage LUAD. NMF, non-negative Matrix Factorization; ROC, receiver operating characteristic curve; LMRGPI, lipid metabolism-related gene prognostic index; LUAD, lung adenocarcinoma.

**Figure S2**



**Figure S2. (a)** The correlation between LMRGPI and the infiltration of the immune cells. **(b)** The association between LMRGPI and ICIs related genes expression. **(c)** The relationship between LMRGPI and TMB. **(d-e)** Box plots and correlation plots to show the relationship between LMRGPI and *LAG3* **(d)** and *POLE2* **(e)**. ns represents no statistical significance; \* represents  $P < 0.05$ .