Sensitivity of Community Structure to Network Uncertainty
Supplementary Information

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1 Results for CA-GR-QC Network

Figures 1 and 2 present the results regarding the functional and structural analysis for the CA-GR-QC network.

2 Results for AS-CAIDA Network

Figures 3 and 4 present the results regarding the functional and structural analysis for the AS-CAIDA network.

3 Results for WIKI-VOTE Network

Figures 5 and 6 present the results regarding the functional and structural analysis for the WIKI-VOTE network.

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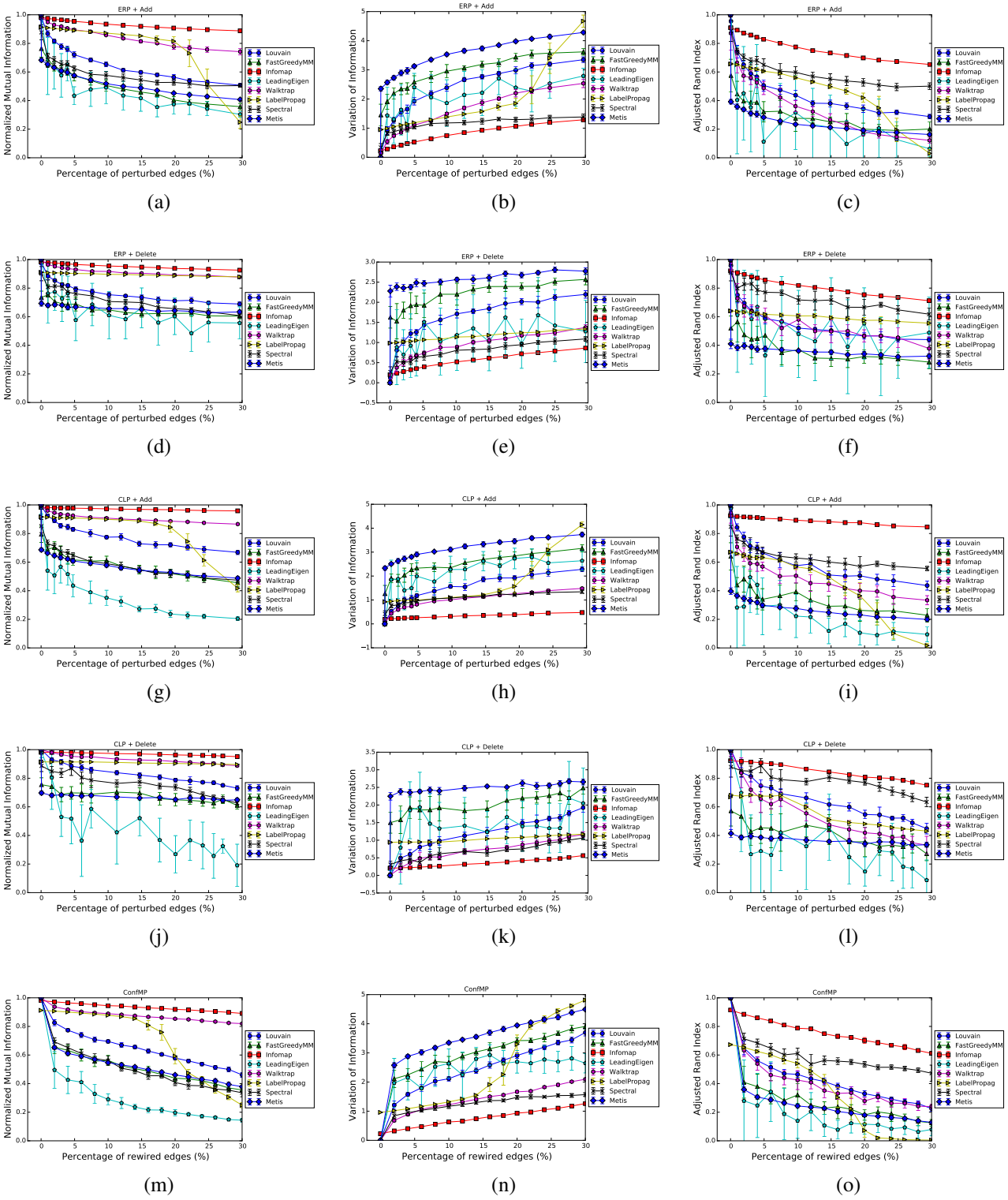

Figure 1: Functional sensitivity plots for several community detection algorithms on the CA-GR-QC network. Rows represent graph perturbation models: ERP with edges addition, ERP with edges deletion, CLP with edges addition, CLP with edges deletion and ConfMP (respectively from top to down). Each column corresponds to one similarity measure: NMI, VI and ARI (respectively from left to right).

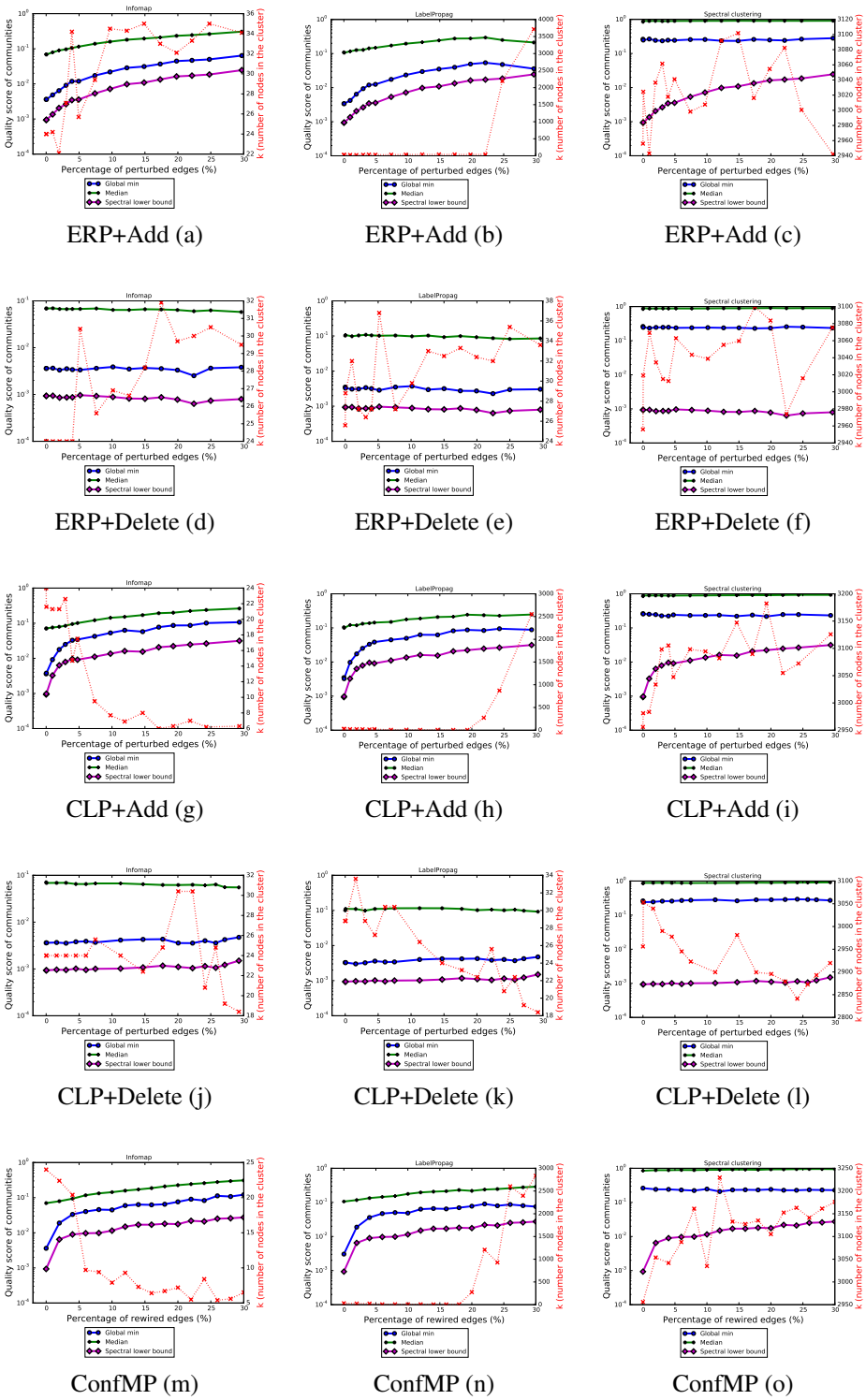

Figure 2: Structural sensitivity plots for the community detection algorithms on the CA-GR-QC network. Rows represent graph perturbation models: ERP with edges addition, ERP with edges deletion, CLP with edges addition, CLP with edges deletion and ConfMP (respectively from top to down). Each column corresponds to a different algorithm: `Infomap`, `LabelPropag`, `Spectral` clustering (respectively from left to right).

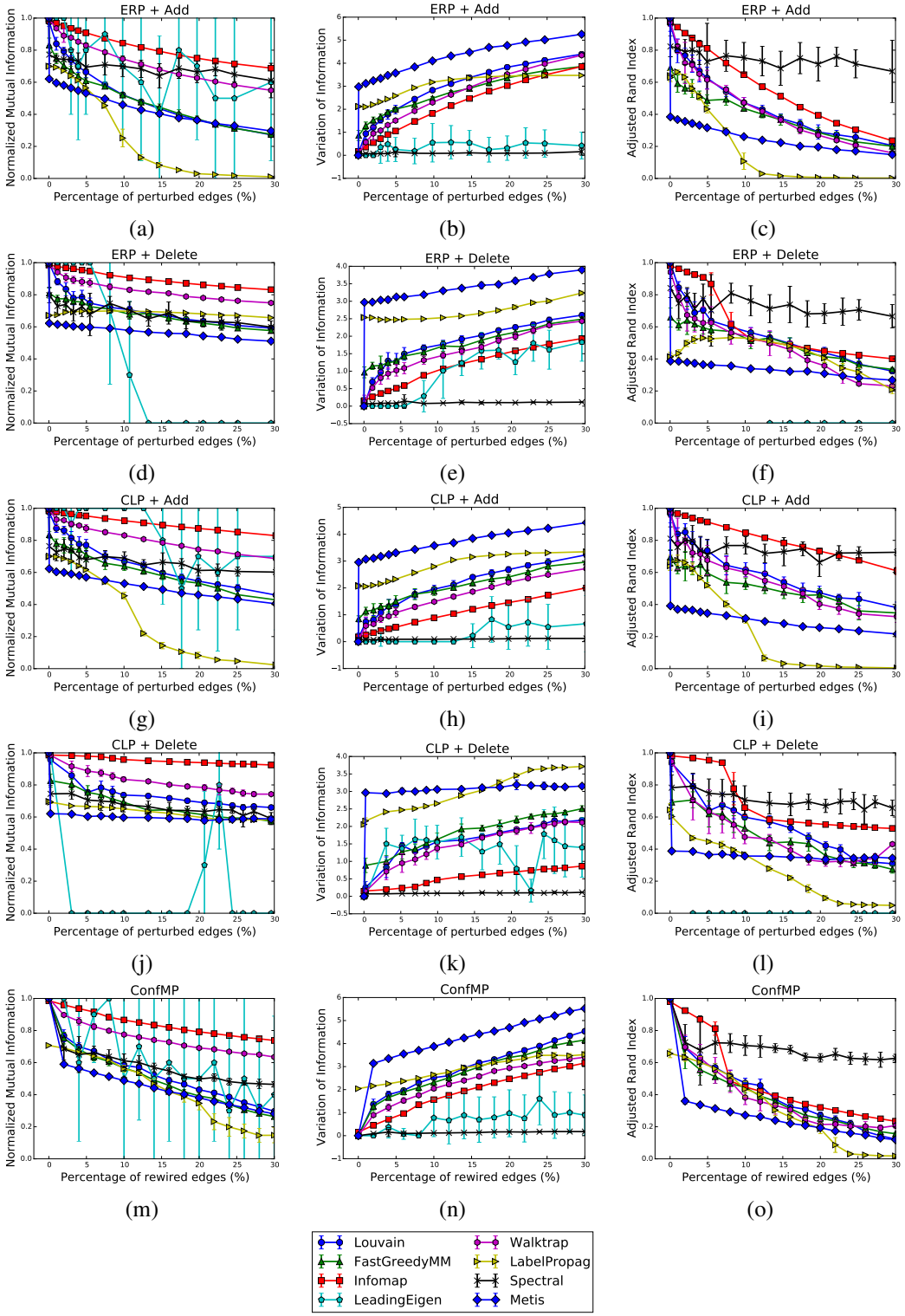

Figure 3: Functional sensitivity plots for several community detection algorithms on the AS-CAIDA network. Rows correspond to graph perturbation models: ERP with edges addition, ERP with edges deletion, CLP with edges addition, CLP with edges deletion and ConfMP (respectively from top to down). Each column corresponds to one similarity measure: NMI, VI and ARI (respectively from left to right).

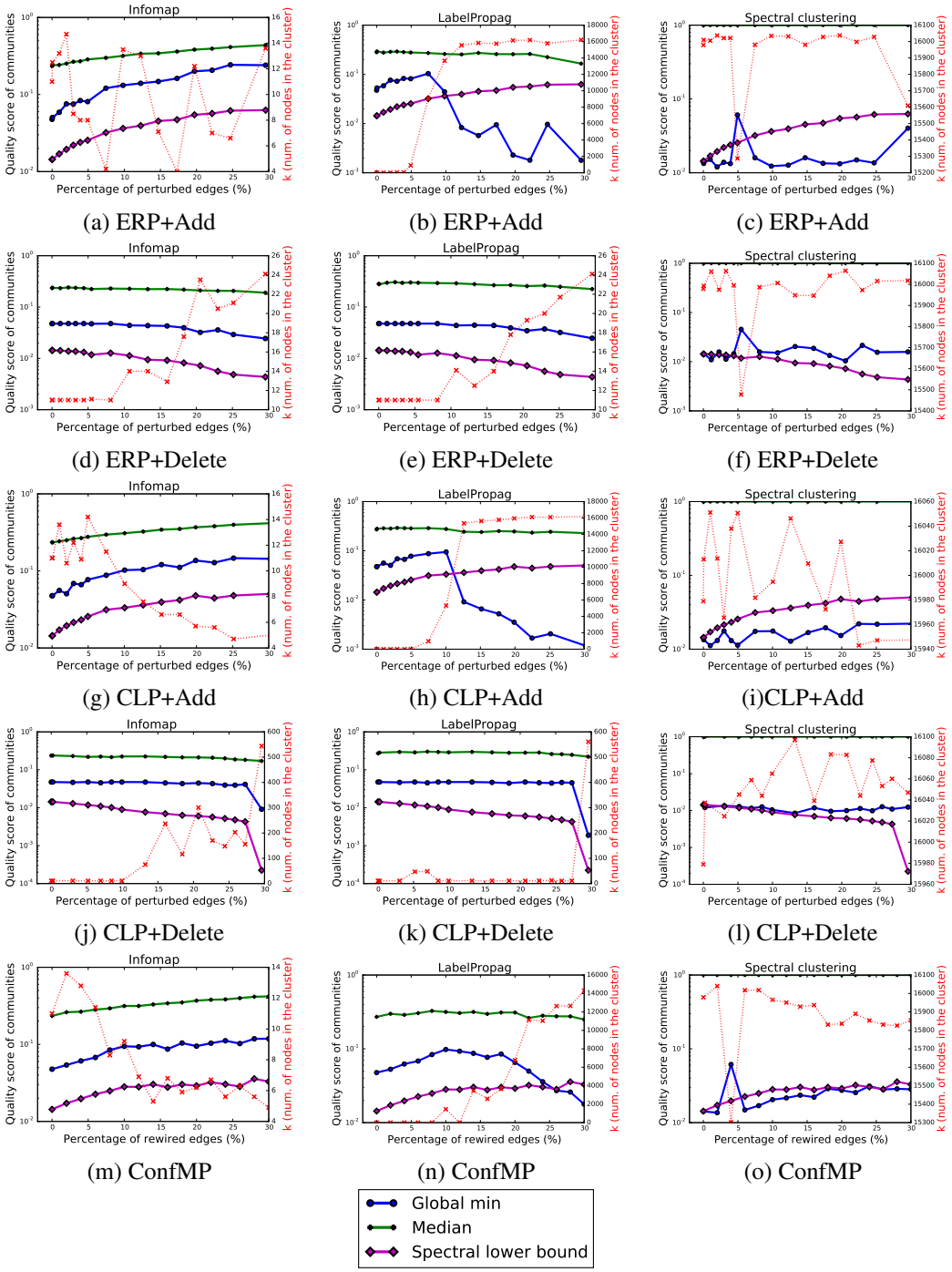

Figure 4: Structural sensitivity plots for the community detection algorithms on the AS-CAIDA network. Rows represent graph perturbation models: ERP with edges addition, ERP with edges deletion, CLP with edges addition, CLP with edges deletion and ConfMP (respectively from top to down). Each column corresponds to a different algorithm: `Infomap`, `LabelPropag`, `Spectral` clustering (respectively from left to right).

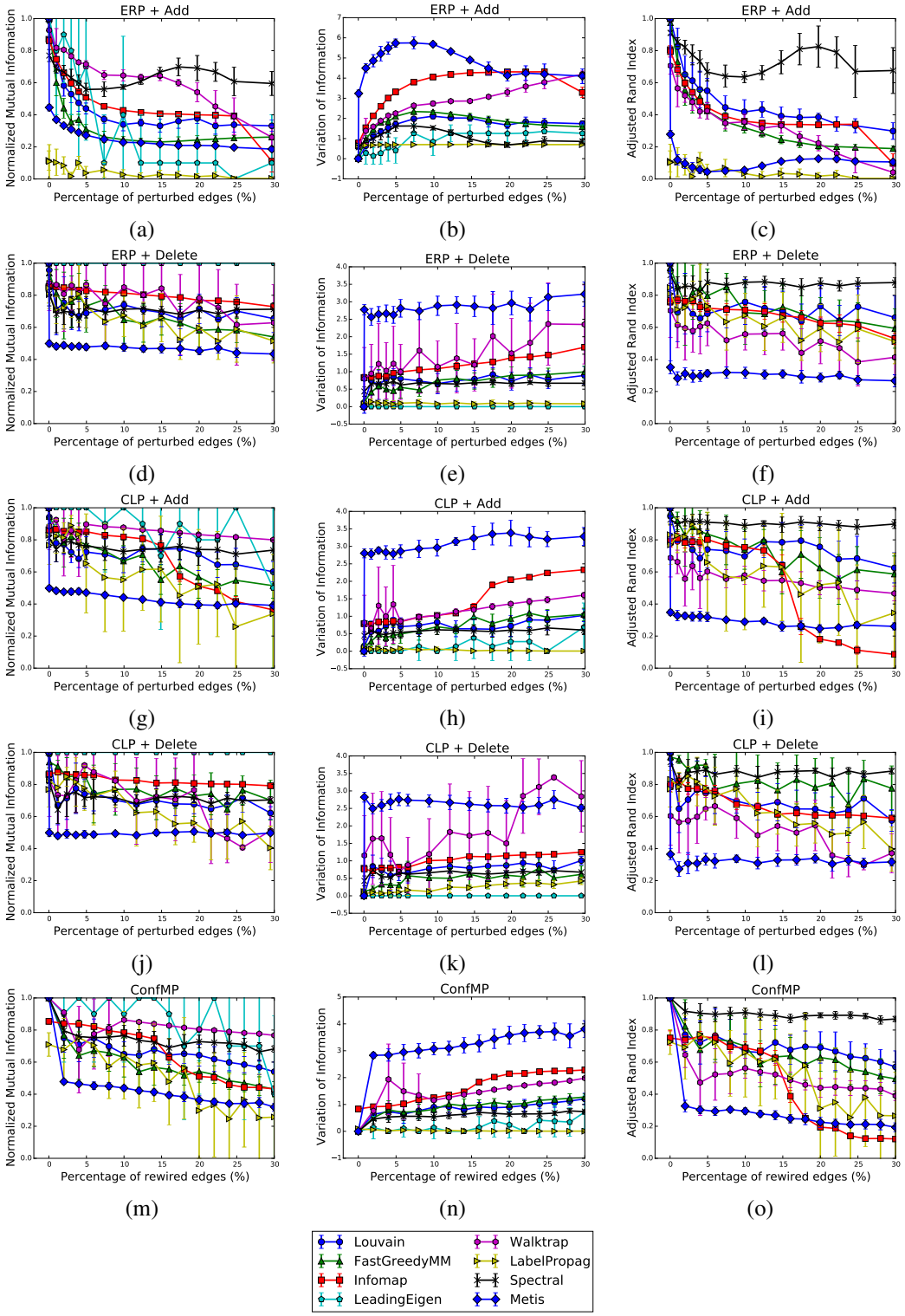

Figure 5: Functional sensitivity plots for several community detection algorithms on the WIKI-VOTE network. Rows correspond to graph perturbation models: ERP with edges addition, ERP with edges deletion, CLP with edges addition, CLP with edges deletion and ConfMP (respectively from top to down). Each column corresponds to one similarity measure: NMI, VI and ARI (respectively from left to right).

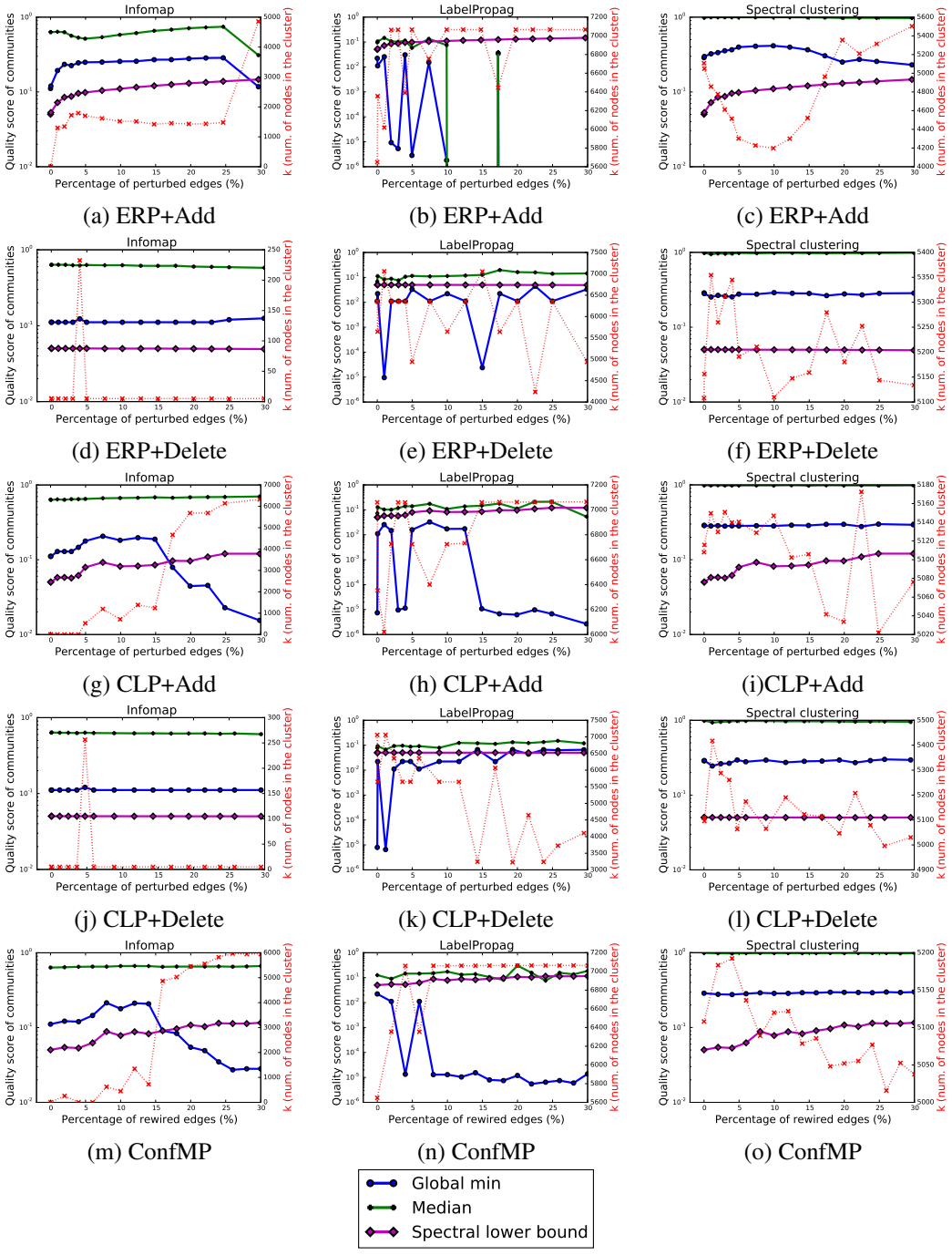

Figure 6: Structural sensitivity plots for the community detection algorithms on the WIKI-VOTE network. Rows represent graph perturbation models: ERP with edges addition, ERP with edges deletion, CLP with edges addition, CLP with edges deletion and ConfMP (respectively from top to down). Each column corresponds to a different algorithm: `Infomap`, `LabelPropag`, `Spectral` clustering (respectively from left to right).