

Figure 4: Results of the bootstrap fit of pressure-extension curves of gels with pK=6.0 and the same hydrophobicity  $\varepsilon=0.5$  and at different salt concentration: (a)  $c_{\rm s}=0.002$ , (b)  $c_{\rm s}=0.003$ , (c)  $c_{\rm s}=0.006$ , (d)  $c_{\rm s}=0.01$ , (e)  $c_{\rm s}=0.015$ , (f)  $c_{\rm s}=0.026$ , (g)  $c_{\rm s}=0.043$ , (h)  $c_{\rm s}=0.072$ . The result of the fitting is an approximate value of  $\chi$  parameter written in the legend.

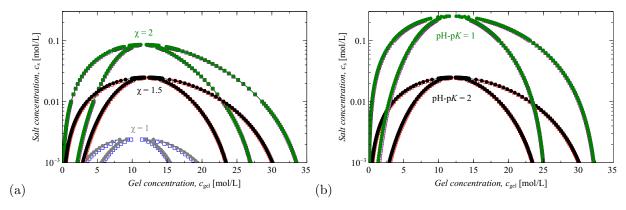


Figure 5: Phase diagrams of hydrophobic gel in salt concentration  $c_{\rm s}$  – gel concentration coordinates obtained from the box-model (a) at constant pH – pK = 2 and different solvent quality  $\chi$ , (b) at constant solvent quality  $\chi = 1.5$  and different pH – pK. Blue, red and dark-magenta colors correspond to b = 2, while grey, black and green – b = 1.