Summary

1. monovalent ions
   - 1.1 ionization of the hydrogel is suppressed as compared to predictions for monomeric acid, due
     - to the Donnan partitioning of H + ions;
     - to the electrostatic repulsion between charges of the gel.
   - 1.2 the decrease of ionisation degree is much less significant than previously estimated using mean-feld models.
   - 1.3 decreasing the ionization of the gel upon compression may completely reverse the desalination effect forcing the gel to release counterions upon compression instead of absorbing them.
2. with divalent ions
   - 2.1 the electrostatics is almost completelly screened
   - 2.2 alpha does not change versus compression
   - 2.3 The compression of gel in presence of divalent ions works as ion exchanger of Ca ion by Na