

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-field 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 completely screened

2.2 α does not change versus compression

2.3 The compression of gel in presence of divalent ions works as ion exchanger of Ca^{2+} ion by Na^+