

Measurement and Characterization of the Electrical Properties of Actin Filaments

Supplementary Materials

Turbidity Measurements for F-actin polymerization under various conditions

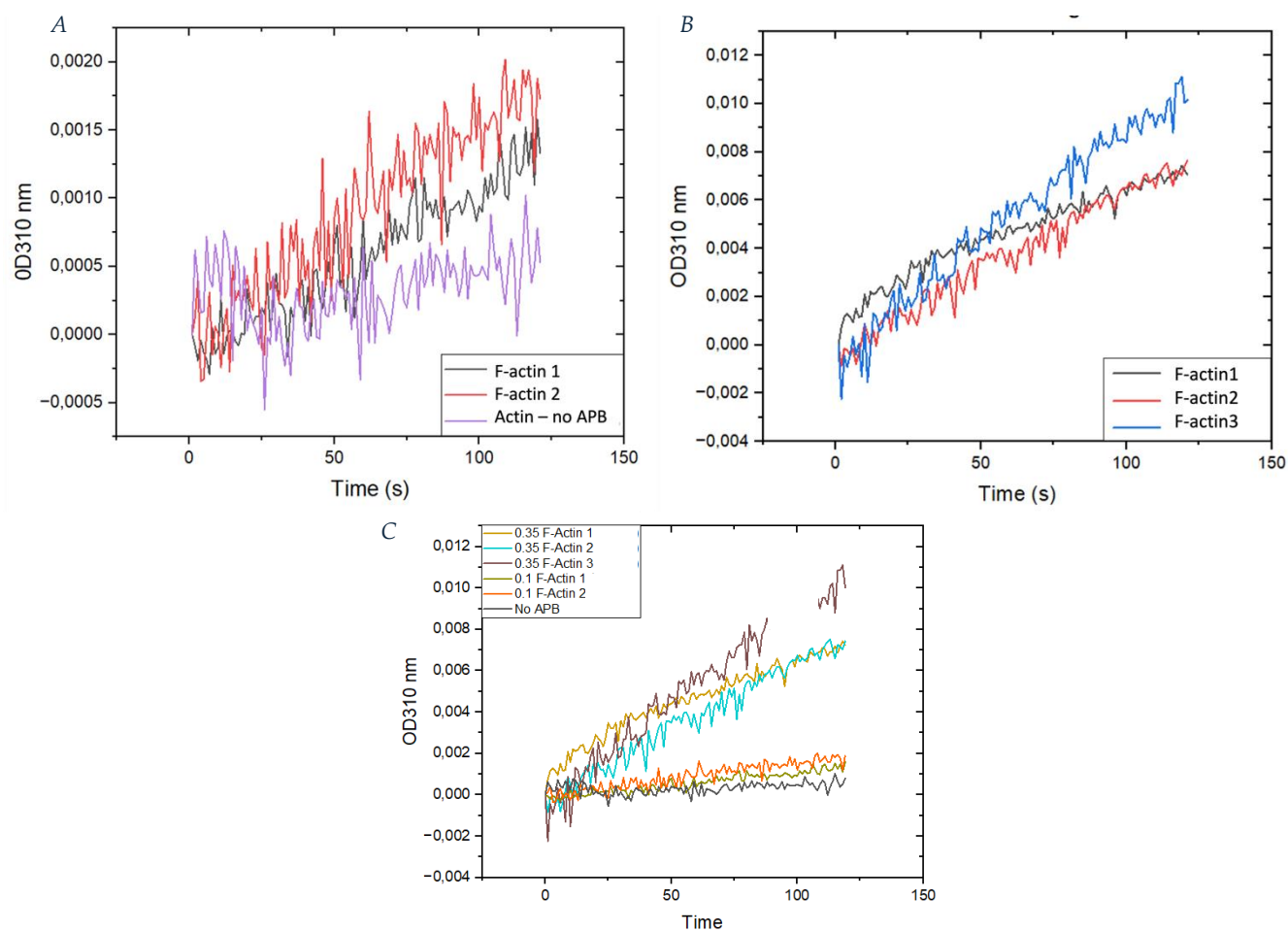


Figure S1. (A) Turbidity measurements of 0.1 mg/mL F-actin; (B) Turbidity measurements of 0.35 mg/mL F-actin; (C) Superposition of plots (A) and (B).

Impedance Measurements for F-actin under various conditions

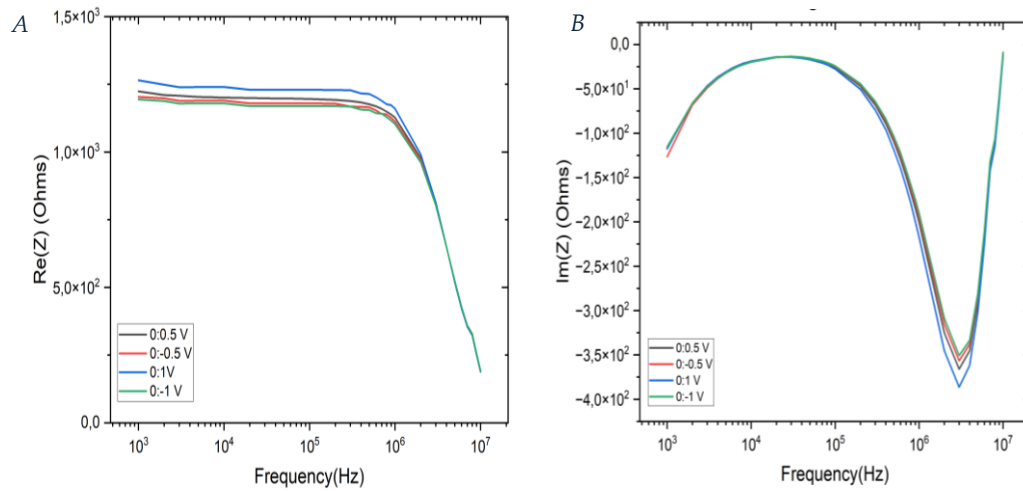


Figure S2. (A) Real part of 0.1 mg/mL F-actin; (B) Imaginary part of 0.1 mg/mL F-actin.

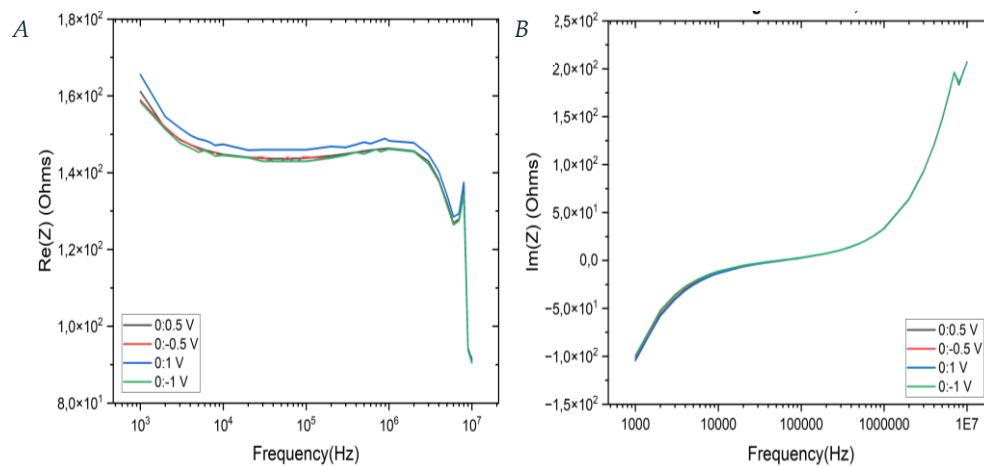


Figure S3. (A) Real part of 0.35 mg/mL F-actin; (B) Imaginary part of 0.35 mg/mL F-actin.

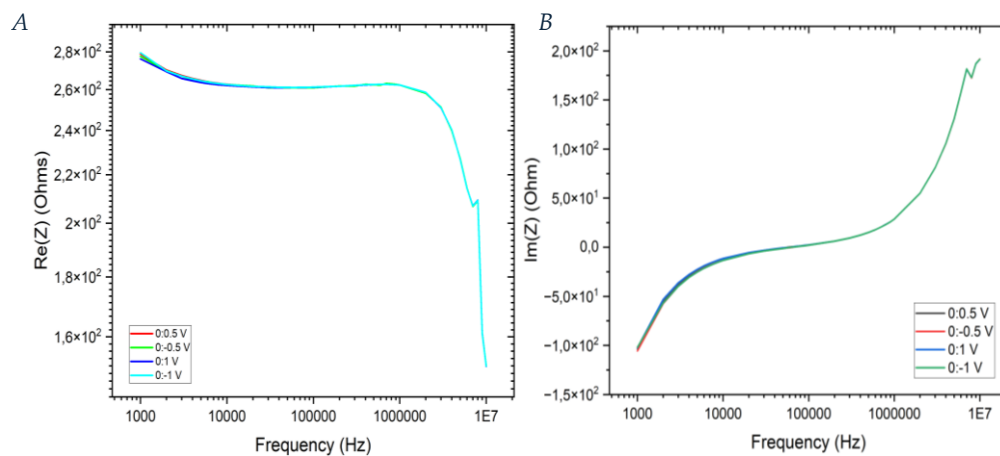


Figure S4. (A) Real part of 0.9 mg/mL F-actin; (B) Imaginary part of 0.9 mg/mL F-actin.

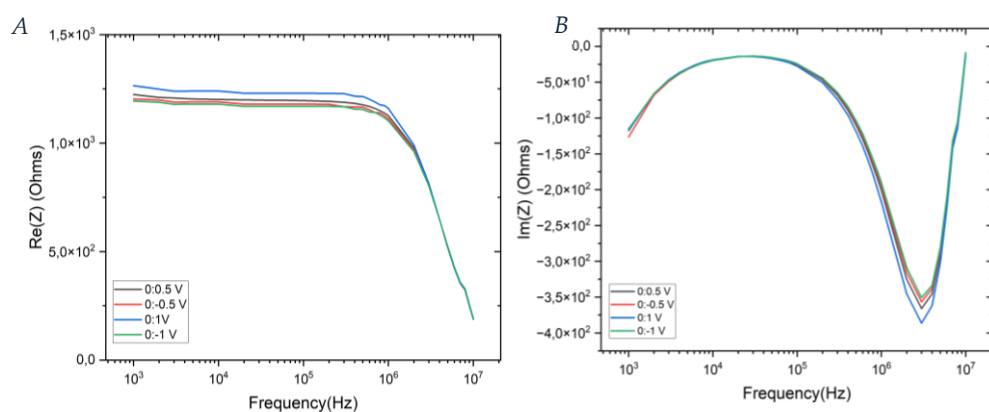


Figure S5. (A) Real part of 0.1 mg/mL G-actin; (B) Imaginary part of 0.1 mg/mL G-actin.

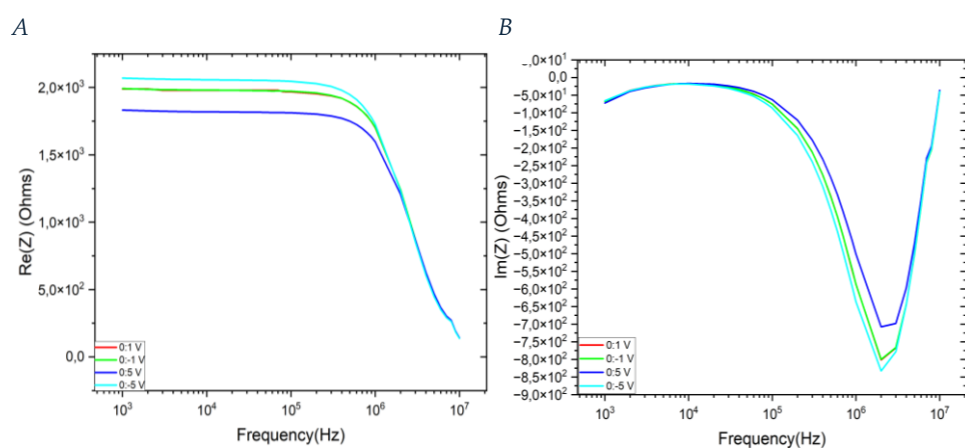


Figure S6. (A) Real part of 0.35 mg/mL G-actin; (B) Imaginary part of 0.35 mg/mL G-actin.

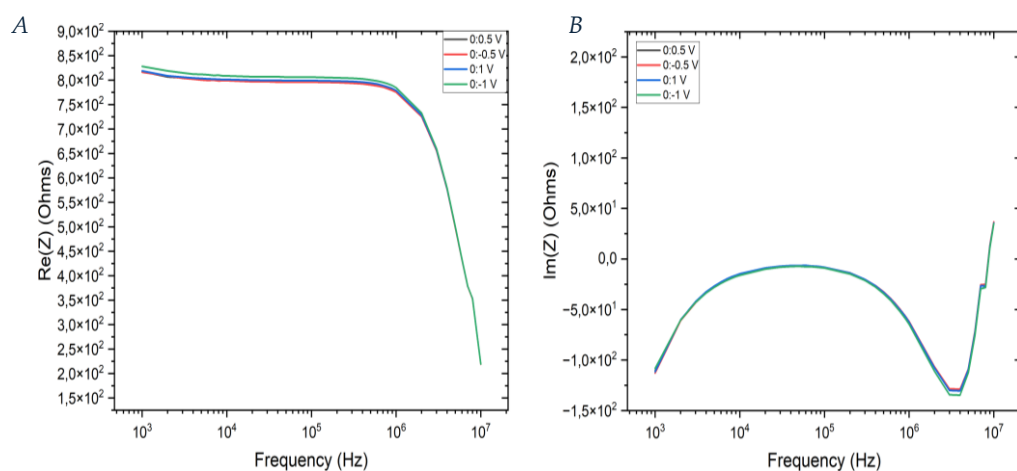


Figure S7. (A) Real part of GAB+DTT+ATP; (B) Imaginary part of GAB+DTT+ATP.

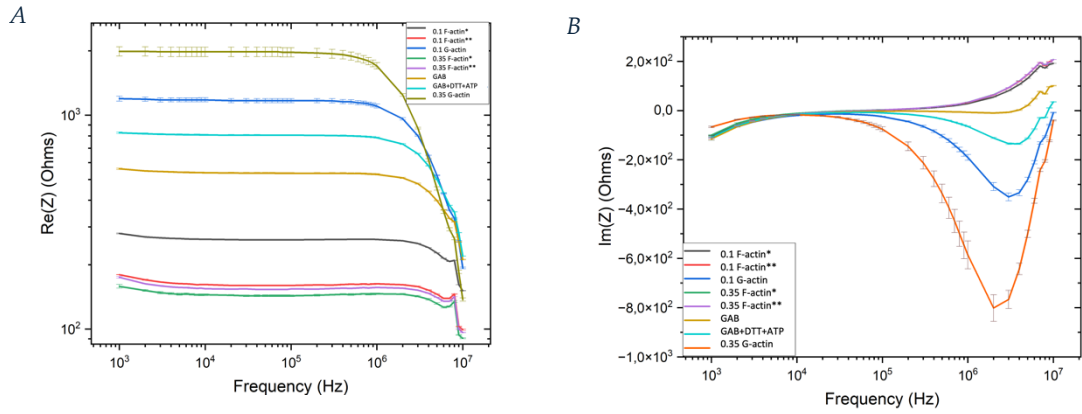


Figure S8. (A) Real part of G/F-actin at different concentration; (B) Imaginary part of G/F-actin at different concentration. If Rhodamine is inserted, then the legend contains two **; otherwise just one *.

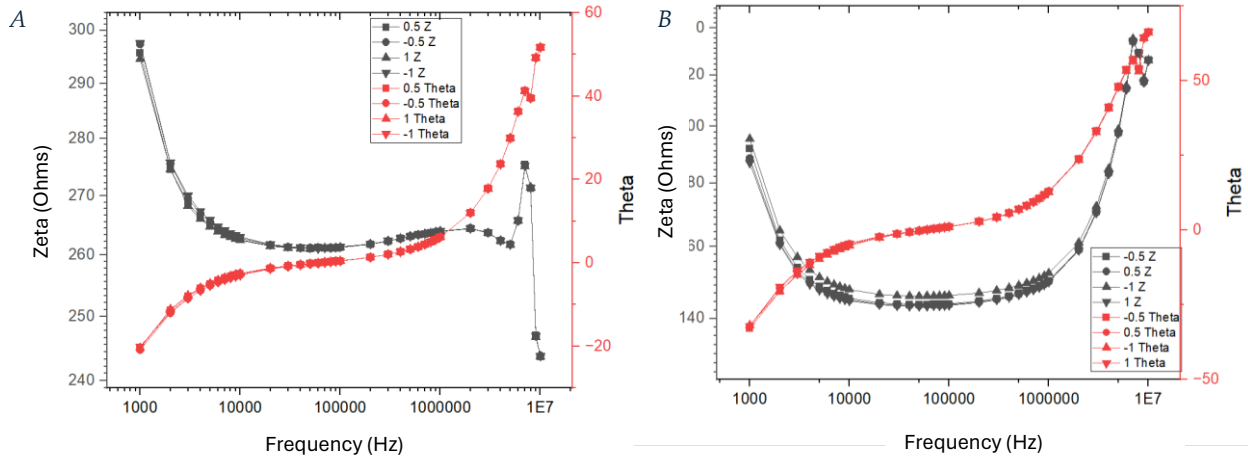


Figure S9. (A) Superposition of the real and imaginary parts of 0.1 mg/mL F-actin; (B) Superposition of the real and imaginary parts of 0.35 mg/mL F-actin. If rhodamine is inserted, then the legend contains two **; otherwise just one *.

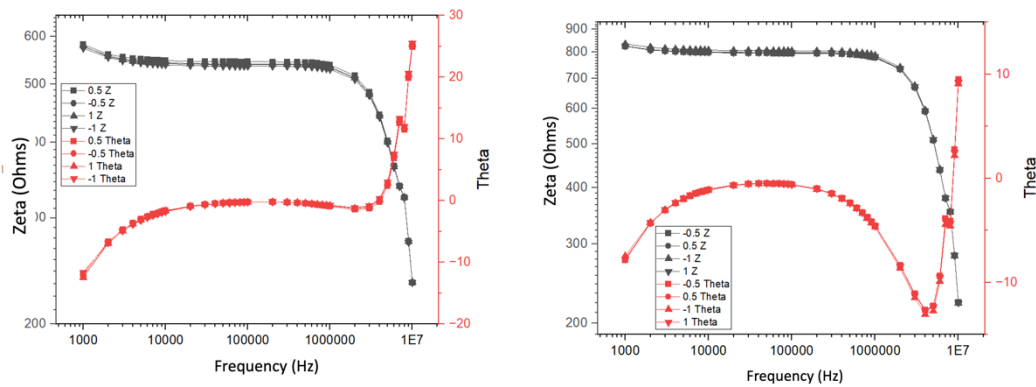


Figure S10. (A) Superposition of the real and imaginary parts of GAB buffer solution; (B) Superposition of the real and imaginary parts of GAB+DTT+ATP buffer solution.

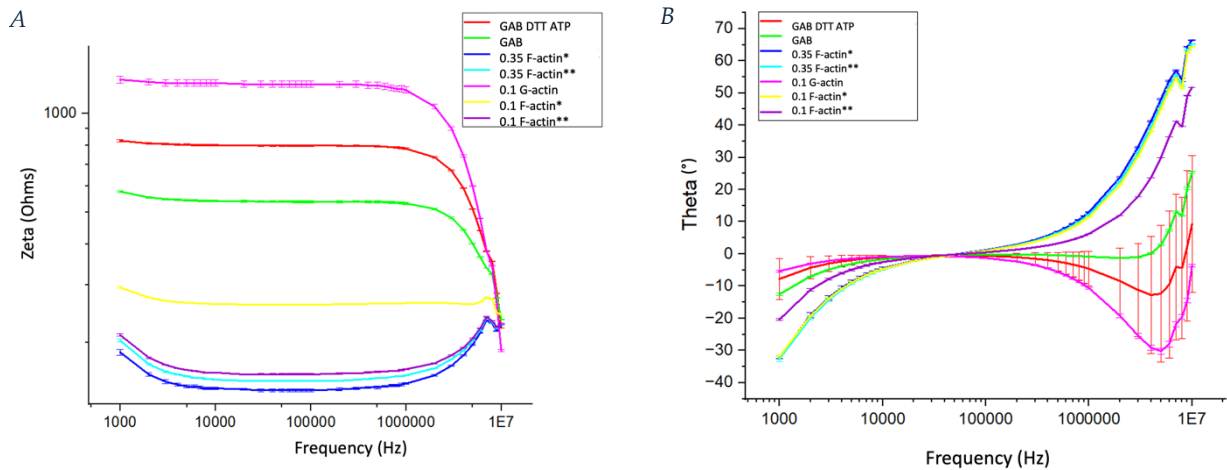


Figure S11. (A) Impedance (Zeta) reported for G-/F-actin and the buffers; (B) Phase (Theta) reported for G-/F-actin and the buffers. If rhodamine is inserted, then the legend contains two **; otherwise just one *.

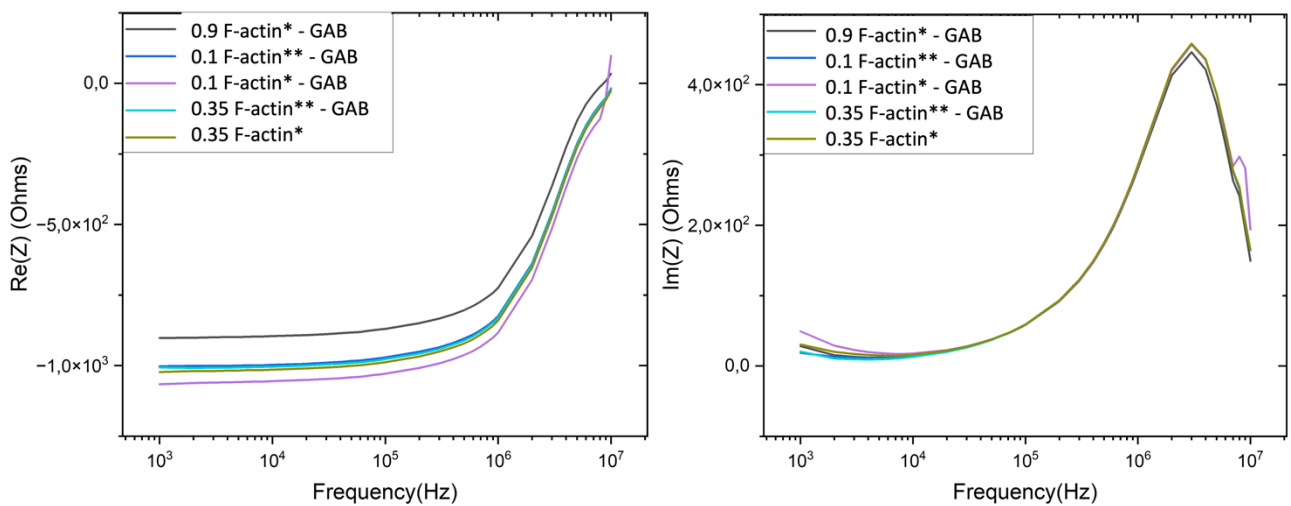


Figure S12. (A) Real part of F-actin minus the only contribution of GAB; (B) Imaginary part of F-actin minus the only contribution of GAB. If rhodamine is inserted, then the legend contains two **; otherwise just one *.

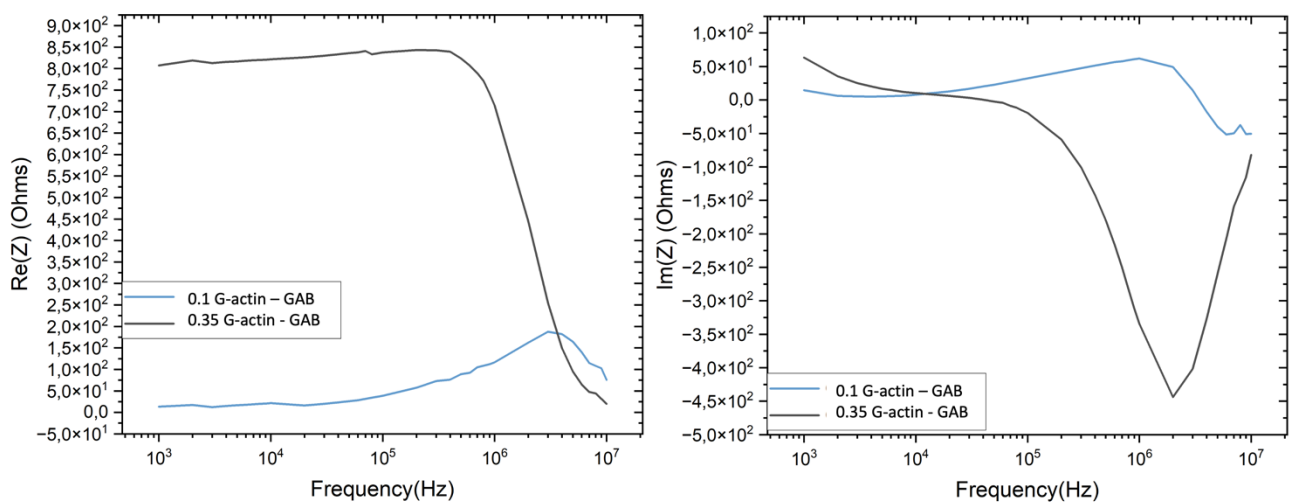


Figure S13. (A) Real part of G-actin minus the only contribution of GAB; (B) Imaginary part of G-actin minus the only contribution of GAB.

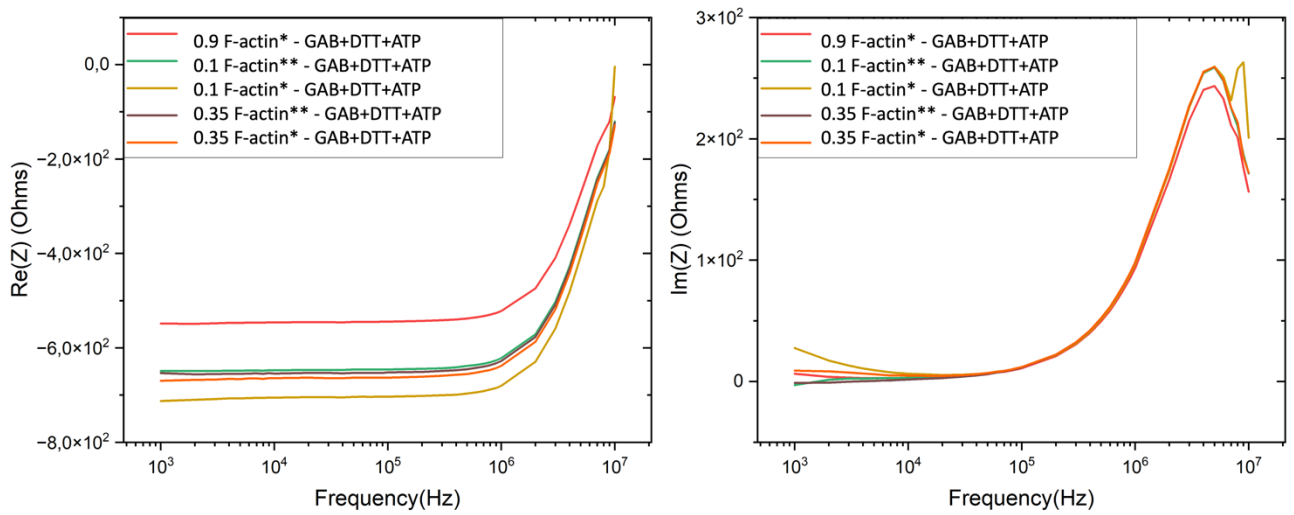


Figure S14. (A) Real part of F-actin minus the contribution of GAB, DTT, ATP; (B) Imaginary part of F-actin minus the contribution of GAB, DTT, ATP. If rhodamine is inserted, then the legend contains two **; otherwise just one *.

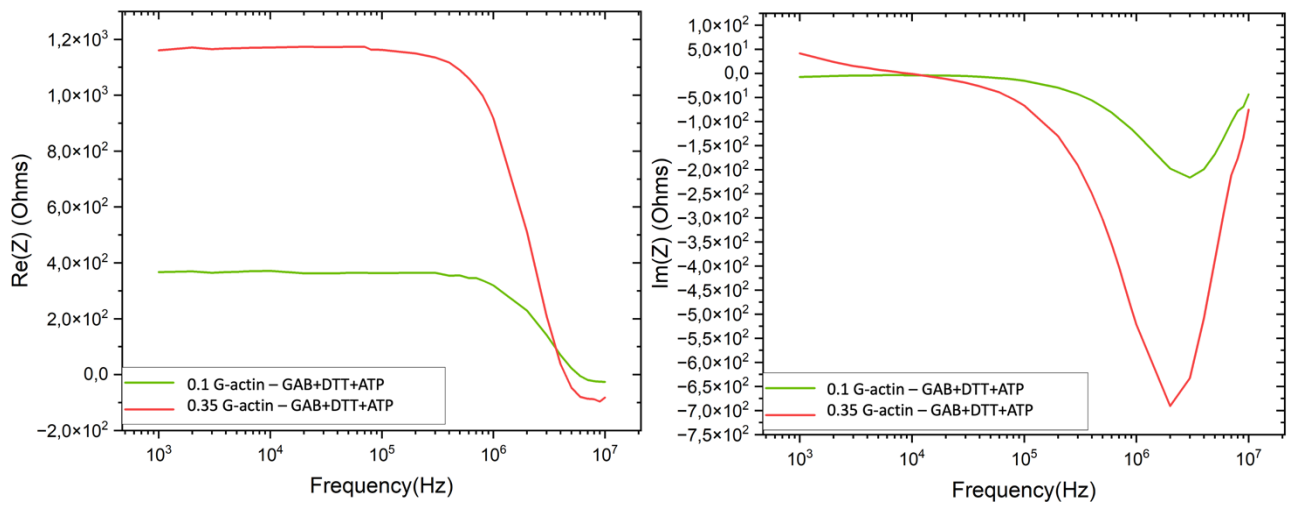


Figure S15. (A) Real part of G-actin minus the contribution of GAB, DTT, ATP; (B) Imaginary part of G-actin minus the contribution of GAB, DTT, ATP.

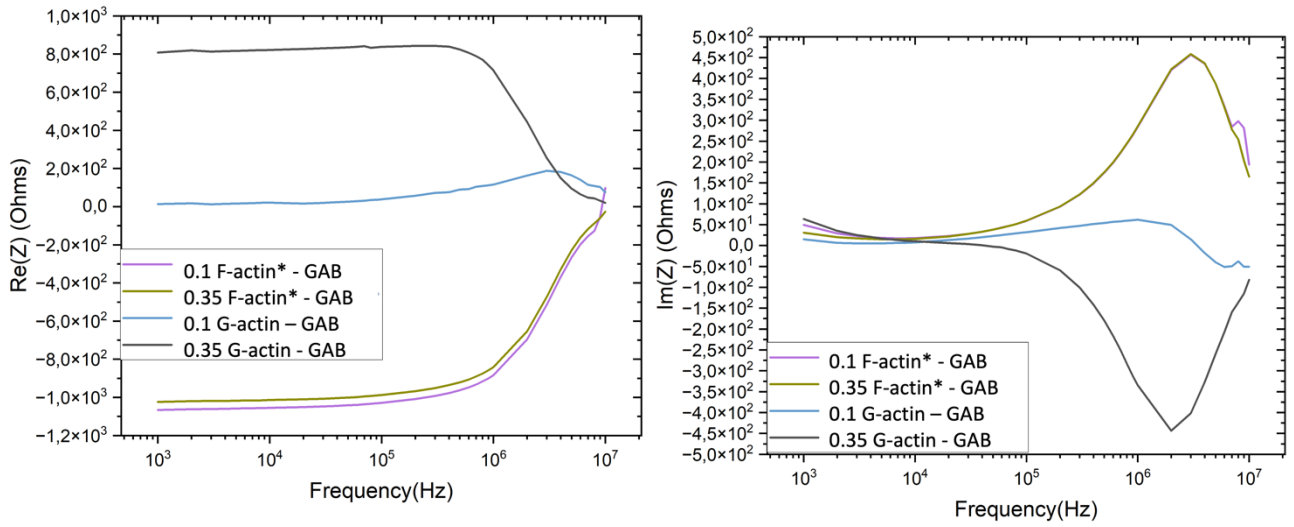


Figure S16. (A) Comparison of the real part of F-actin vs G-actin if only GAB is subtracted; (B) Comparison of the imaginary part of F-actin vs G-actin if only GAB is subtracted. If rhodamine is inserted, then the legend contains two **, otherwise just one *.

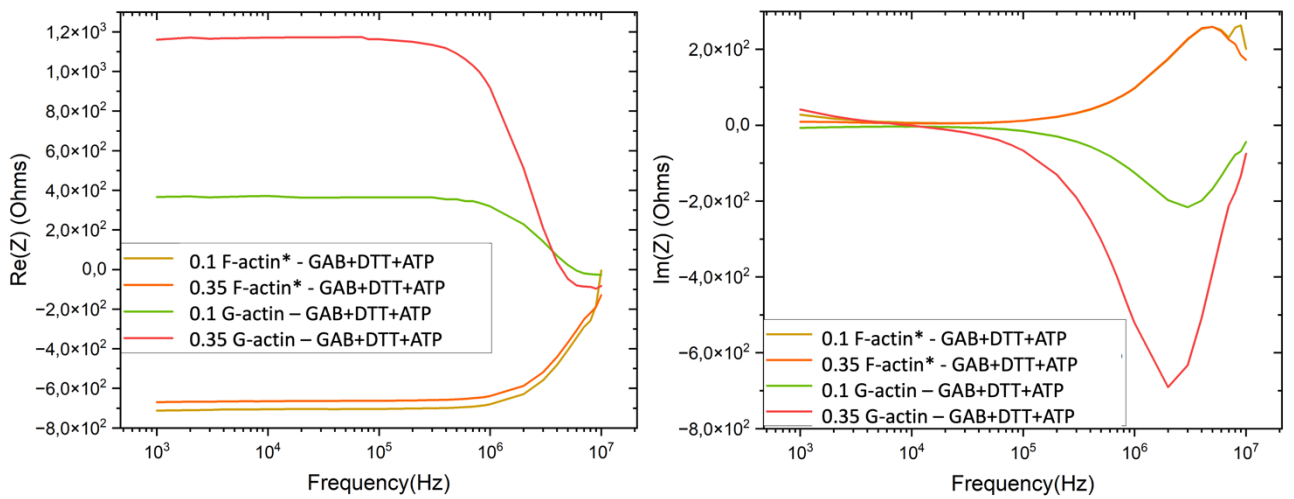


Figure S17. (A) Comparison of the real part of F-actin vs G-actin if GAB, DTT, ATP are subtracted; (B) Comparison of the imaginary part of F-actin vs G-actin if GAB, DTT, ATP are subtracted. If rhodamine is inserted, then the legend contains two **, otherwise just one *.