Supplementary Information:

Specific Uptake and Interactions of Peptide Nucleic Acid Derivative with Biomimetic Membranes

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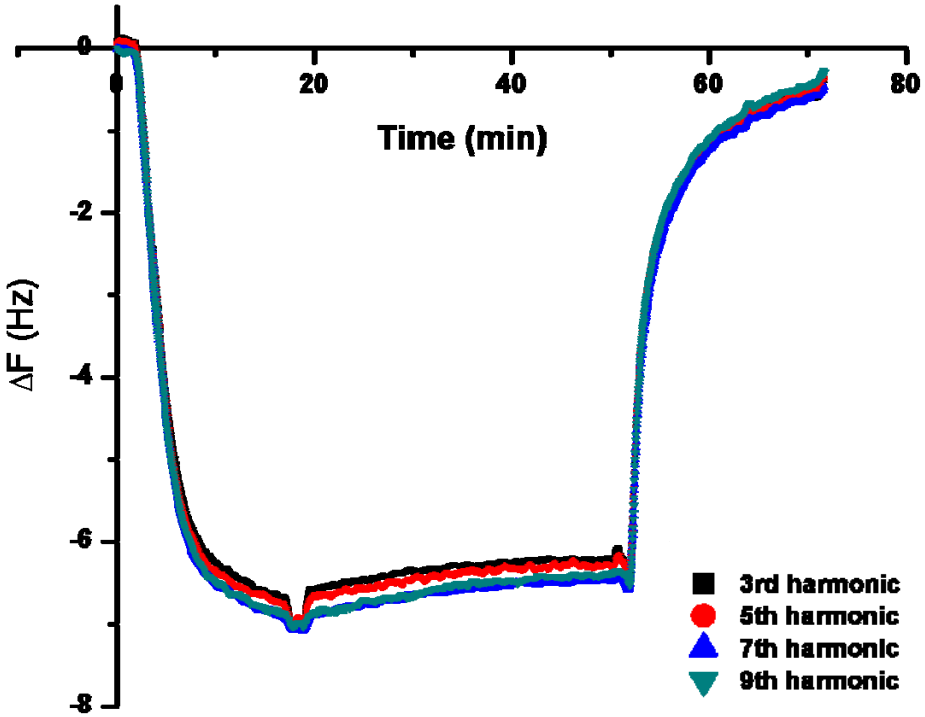

Figure S1. Δf-t plot showing the overtone effect for **PNA1** (5 μM) uptake on DMPC/cholesterol membrane. Time (t) ≥ 50 min corresponds to final PBS rinse.

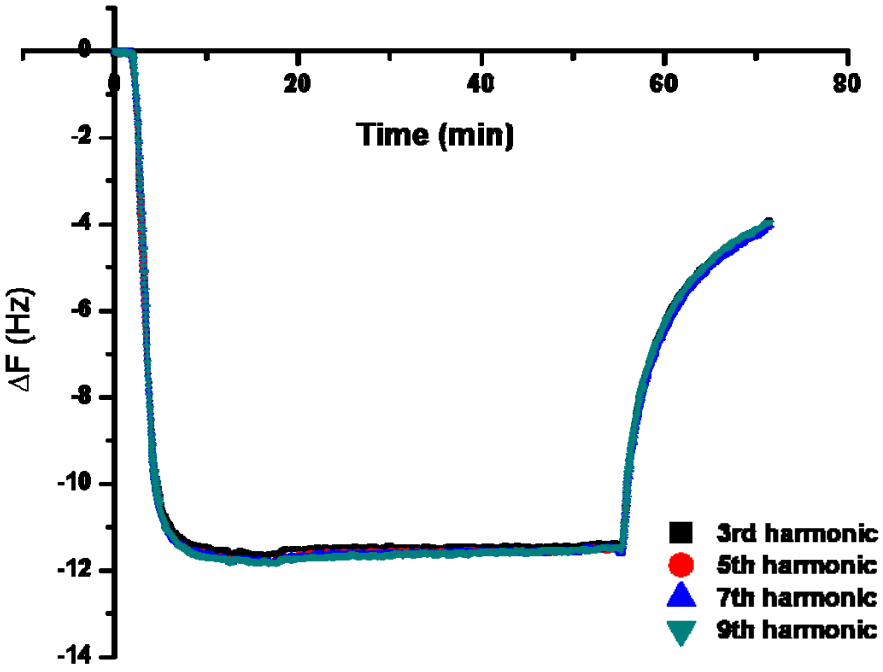

Figure S2. Δf-t plot showing the overtone effect for **PNA2** (5 μM) uptake on DMPC/cholesterol membrane. Time (t) ≥ 50 min corresponds to final PBS rinse.

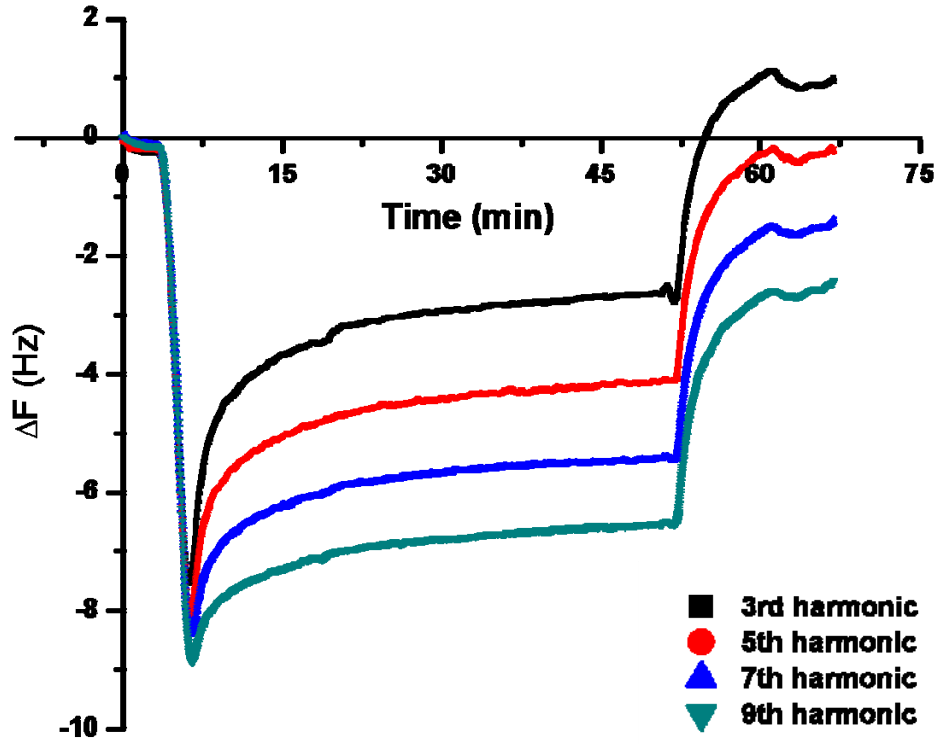

Figure S3. Δf-t plot showing the overtone effect for **PNA3** (10 μM) uptake on DMPC/cholesterol membrane. Time (t) ≥ 50 min corresponds to final PBS rinse.

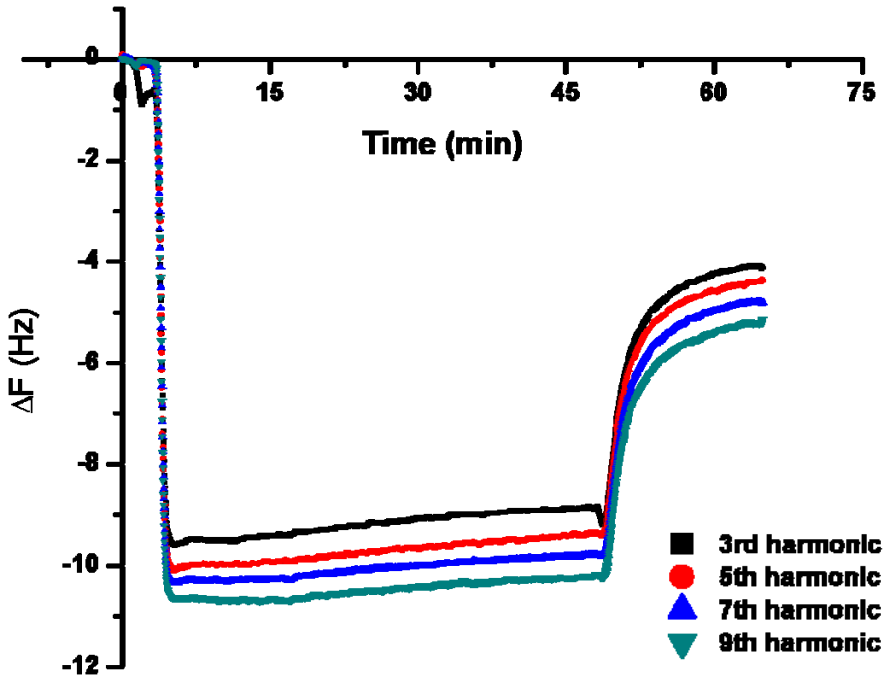

Figure S4. Δf-t plot showing the overtone effect for **PNA4** (10 μM) uptake on DMPC/cholesterol membrane. Time (t) ≥ 50 min corresponds to final PBS rinse.

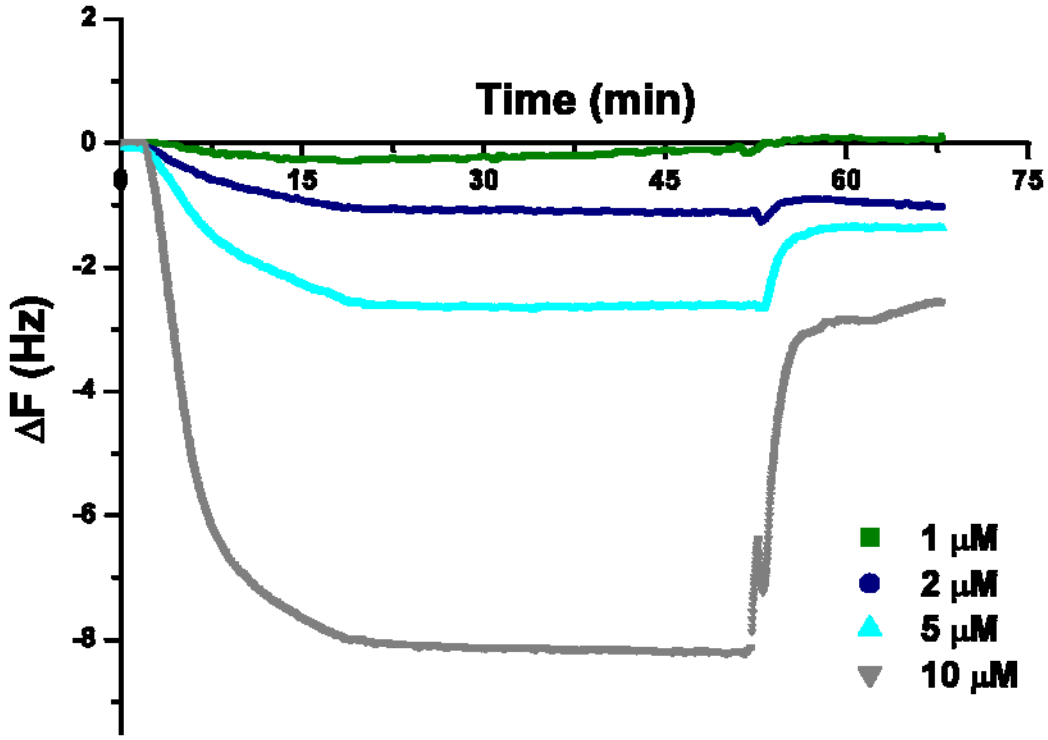

Figure S5. Δf-t plot showing effect of **PNA1** concentrations (1-10 μM) on its interaction with DMPC/DMPG (4:1) lipid membrane. Time (t) ≥ 50 min corresponds to final PBS rinse.

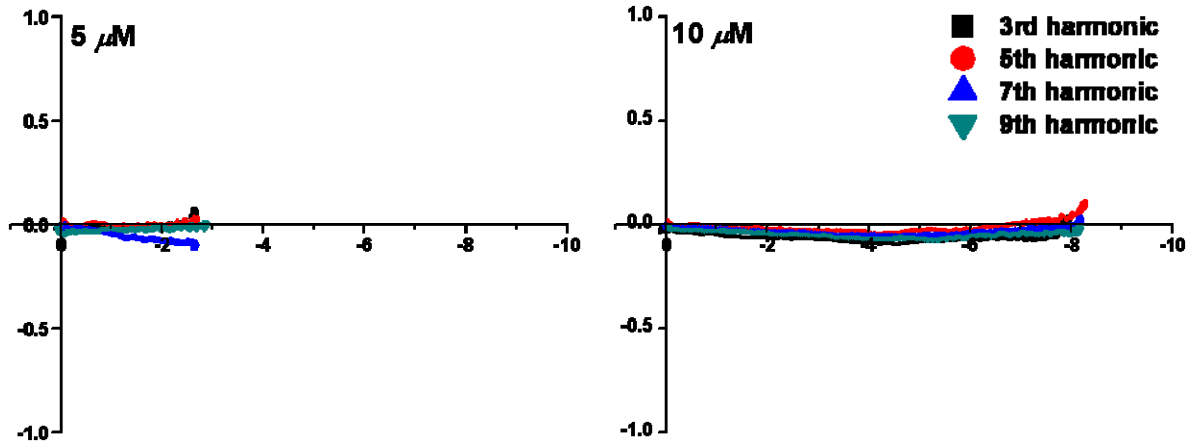

Figure S6. Energy dissipation (ΔD) *vs.* frequency (Δf) dependence of **PNA1** activity on DMPC/DMPG (4:1) membrane. The x and y-axis represent Δf and ΔD (10^{-6}) values, respectively. The final buffer rinse is not shown.

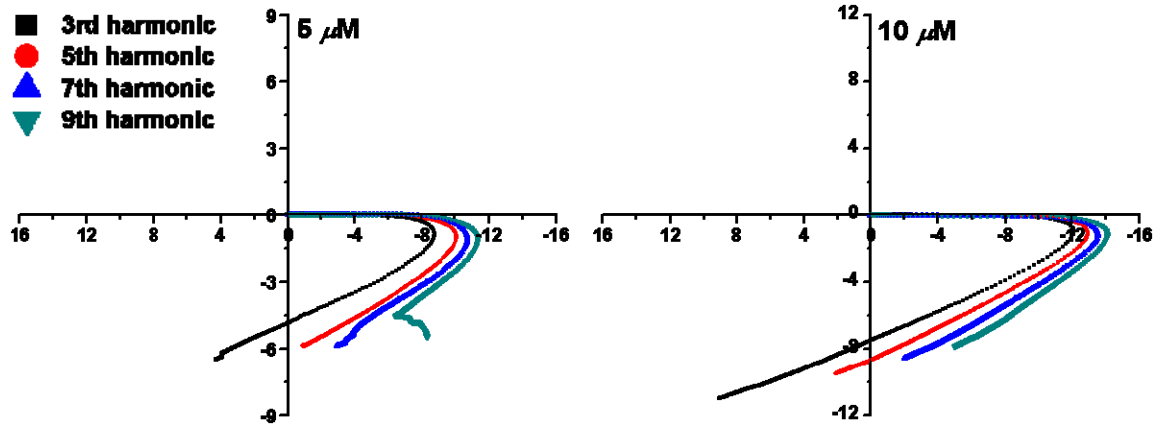

Figure S7. Energy dissipation (ΔD) *vs.* frequency (Δf) dependence of **PNA3** activity on DMPC/DMPG (4:1) membrane. The x and y-axis represent Δf and ΔD (10^{-6}) values, respectively. The final buffer rinse is not shown.

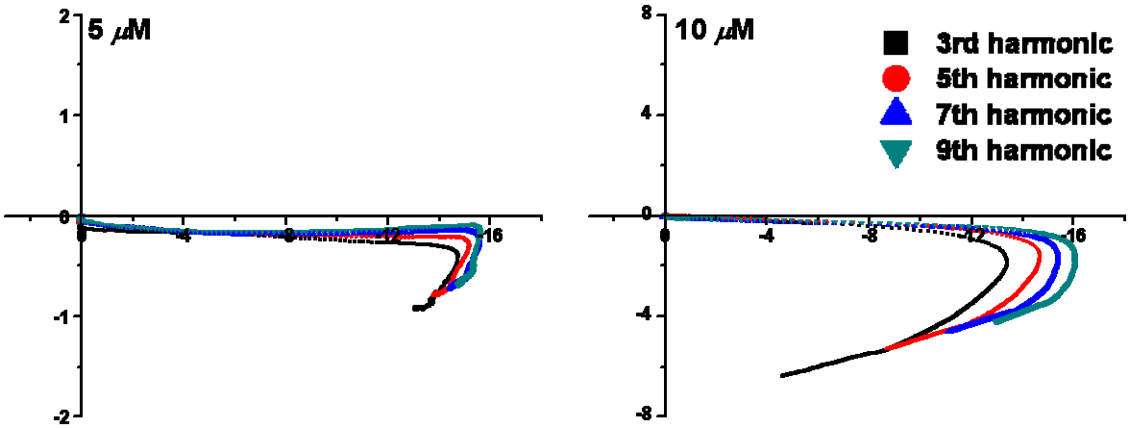

Figure S8. Energy dissipation (ΔD) *vs.* frequency (Δf) dependence of **PNA4** activity on DMPC/DMPG (4:1) membrane. The x and y-axis represent Δf and ΔD (10^{-6}) values, respectively. The final buffer rinse is not shown.

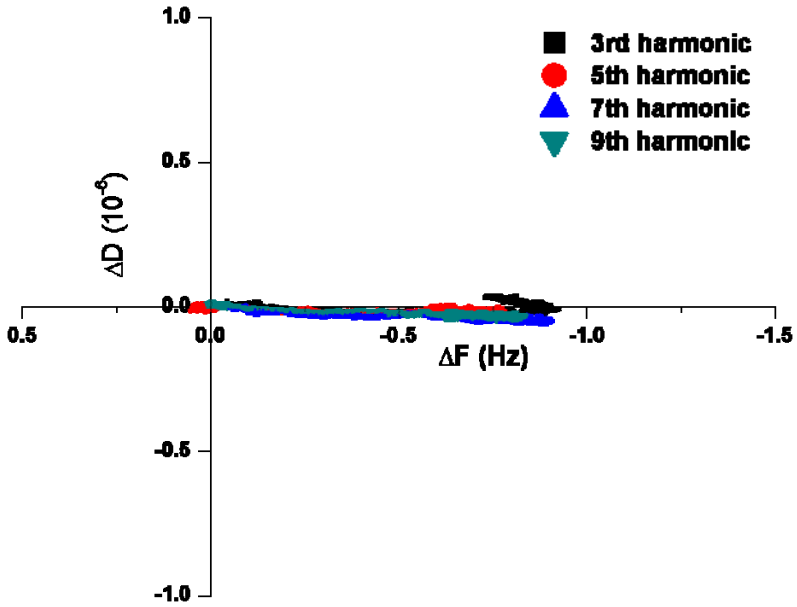

Figure S9. Energy dissipation (ΔD) *vs.* frequency (Δf) dependence of **PNA1** activity on neat DMPC membrane. The x and y-axis represent Δf and ΔD (10^{-6}) values, respectively. The final buffer rinse is not shown.

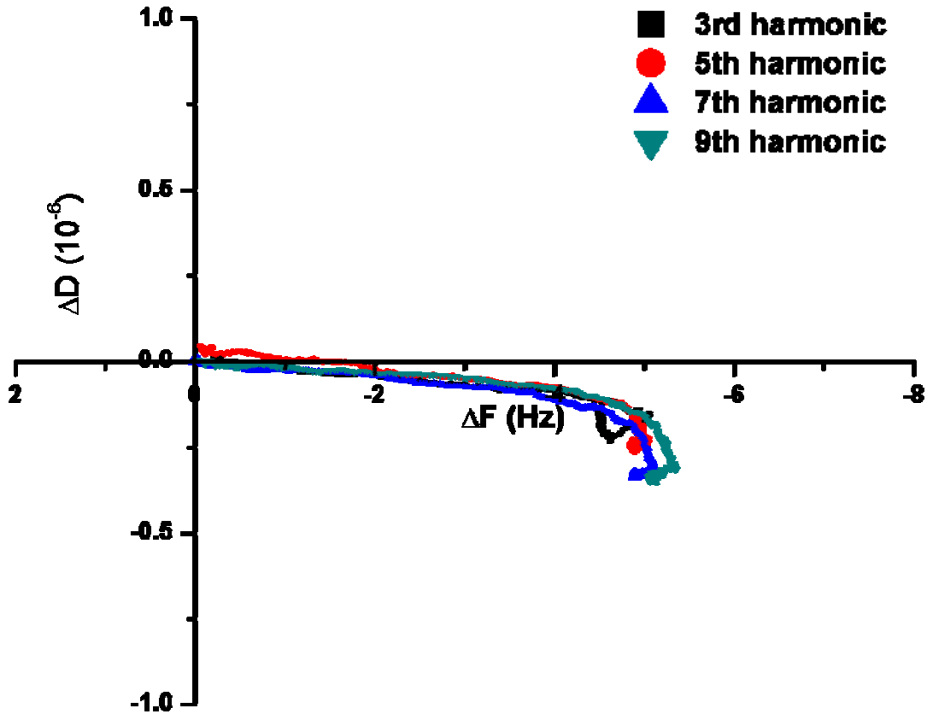

Figure S10. Energy dissipation (ΔD) *vs.* frequency (Δf) dependence of **PNA2** activity on neat DMPC membrane. The x and y-axis represent Δf and ΔD (10^{-6}) values, respectively. The final buffer rinse is not shown.

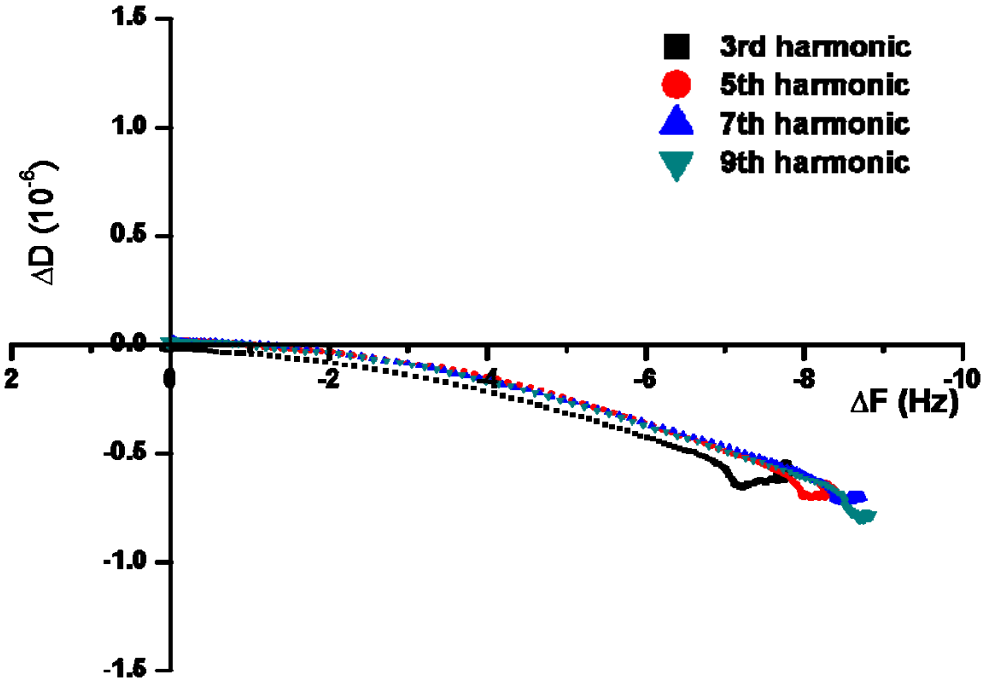

Figure S11. Energy dissipation (ΔD) *vs.* frequency (Δf) dependence of **PNA3** activity on neat DMPC membrane. The x and y-axis represent Δf and ΔD (10^{-6}) values, respectively. The final buffer rinse is not shown.

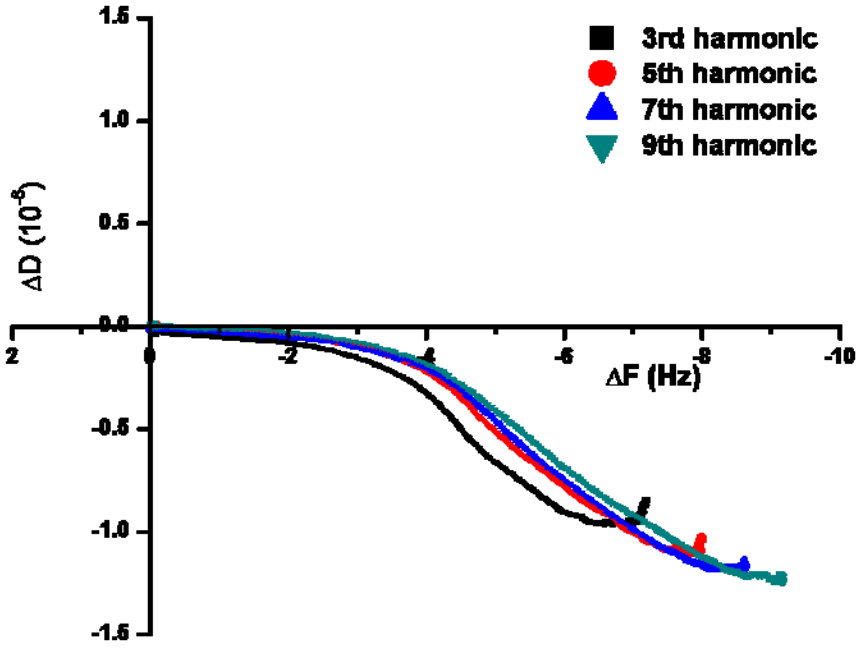

Figure S12. Energy dissipation (ΔD) *vs.* frequency (Δf) dependence of **PNA4** activity on neat DMPC membrane. The x and y-axis represent Δf and ΔD (10^{-6}) values, respectively. The final buffer rinse is not shown.