

Legends to Supplemental Materials

Supplementary Table. Sequence of CRT C-terminal domain of different species. Negatively and positively charged residues are colored in blue and red, respectively.

Supplemental Figure 1. Effect of calcium on the TFE-induced structure of C-domain. (A) Far-UV CD spectra recorded in the presence of 20 mM Ca^{2+} and/or 18 % TFE. (B) Ellipticity at 222 nm for increasing TFE concentrations in the presence and absence of 20 mM Ca^{2+} .

Supplemental Figure 2. Comparison of the far-UV CD spectrum of CRT C-t with the spectrum resulting from the addition of its constituent parts, Wt-C and Wt-N, at (A) 5 μM and (B) 22 mM CaCl_2 .

Supplemental Figure 3. Molecular dynamics simulation of a random peptide. (A) Moment of inertia and (B) end-to-end distance in the presence of calcium (solid line) or sodium (dotted line). Straight horizontal lines are the calculated average values for each condition after 5 ns of equilibration. (C) Number of ion-peptide contacts for calcium (black bars) and sodium (gray bars).

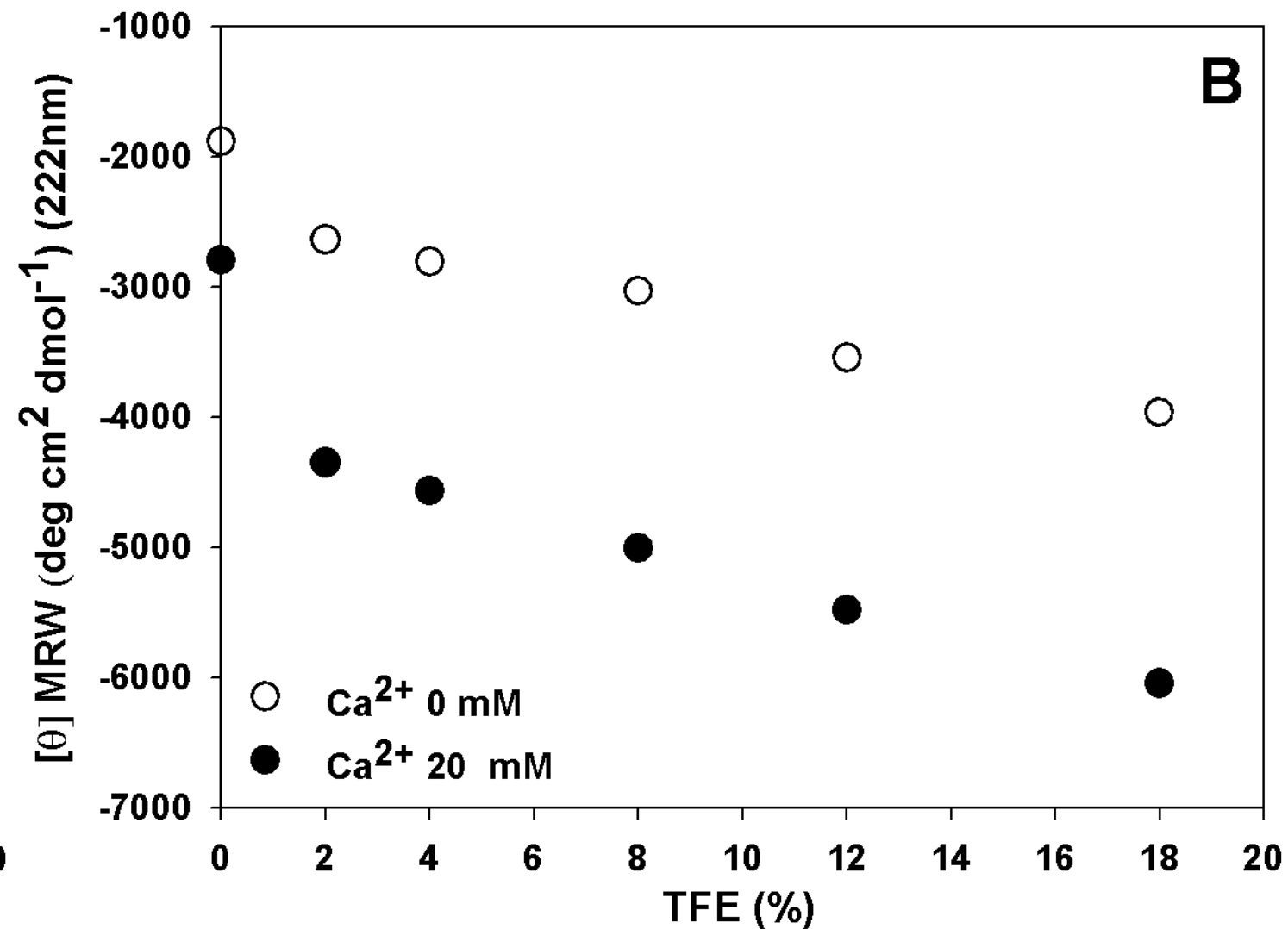
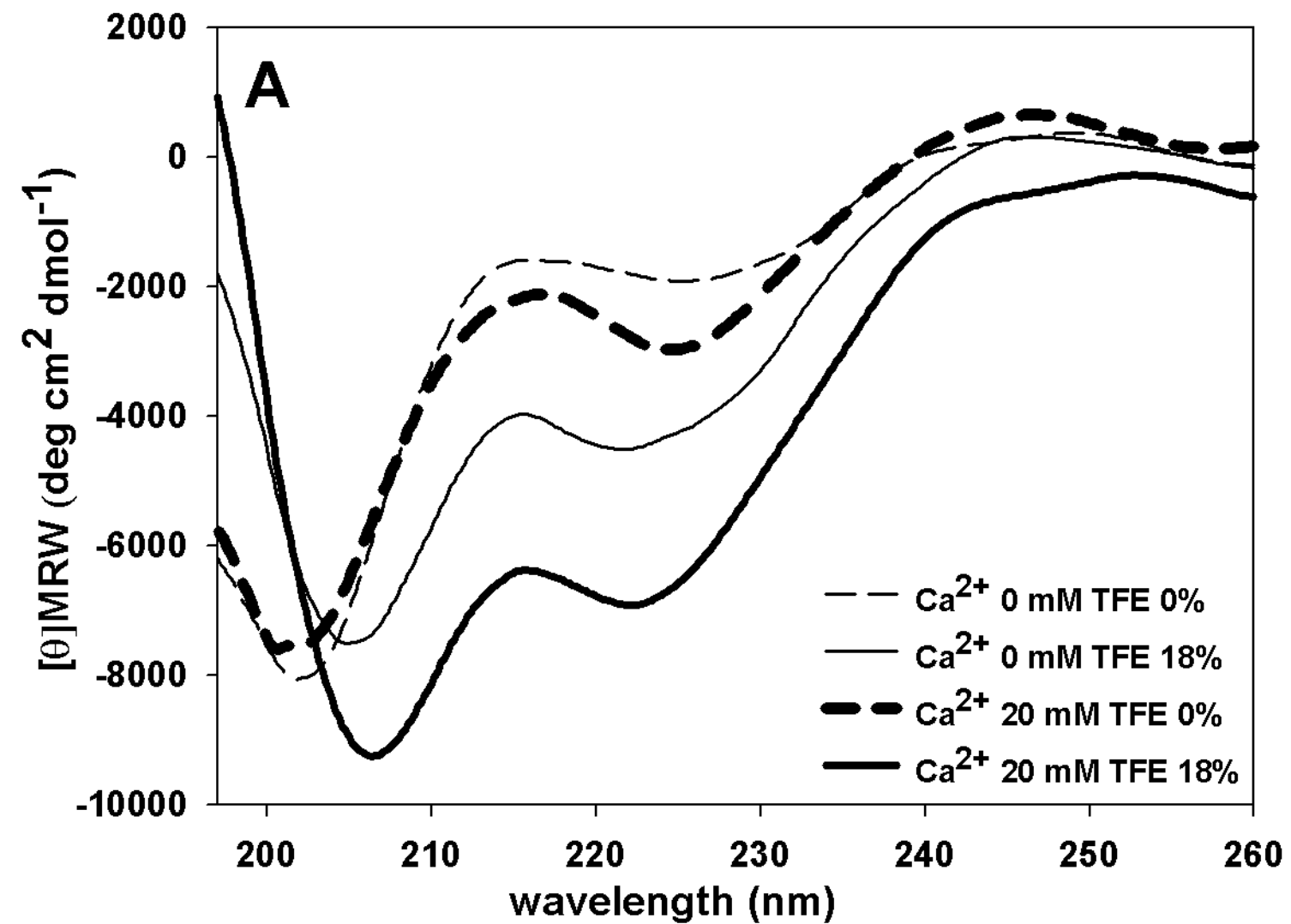
Supplemental Figure 4. Fourier transform analysis of the charge distribution along the CRT C-t of selected species and the random domain Rd.

Supplemental Figure 5. α -helix propensities of CRT-Ct and Rd as predicted by Agadir.

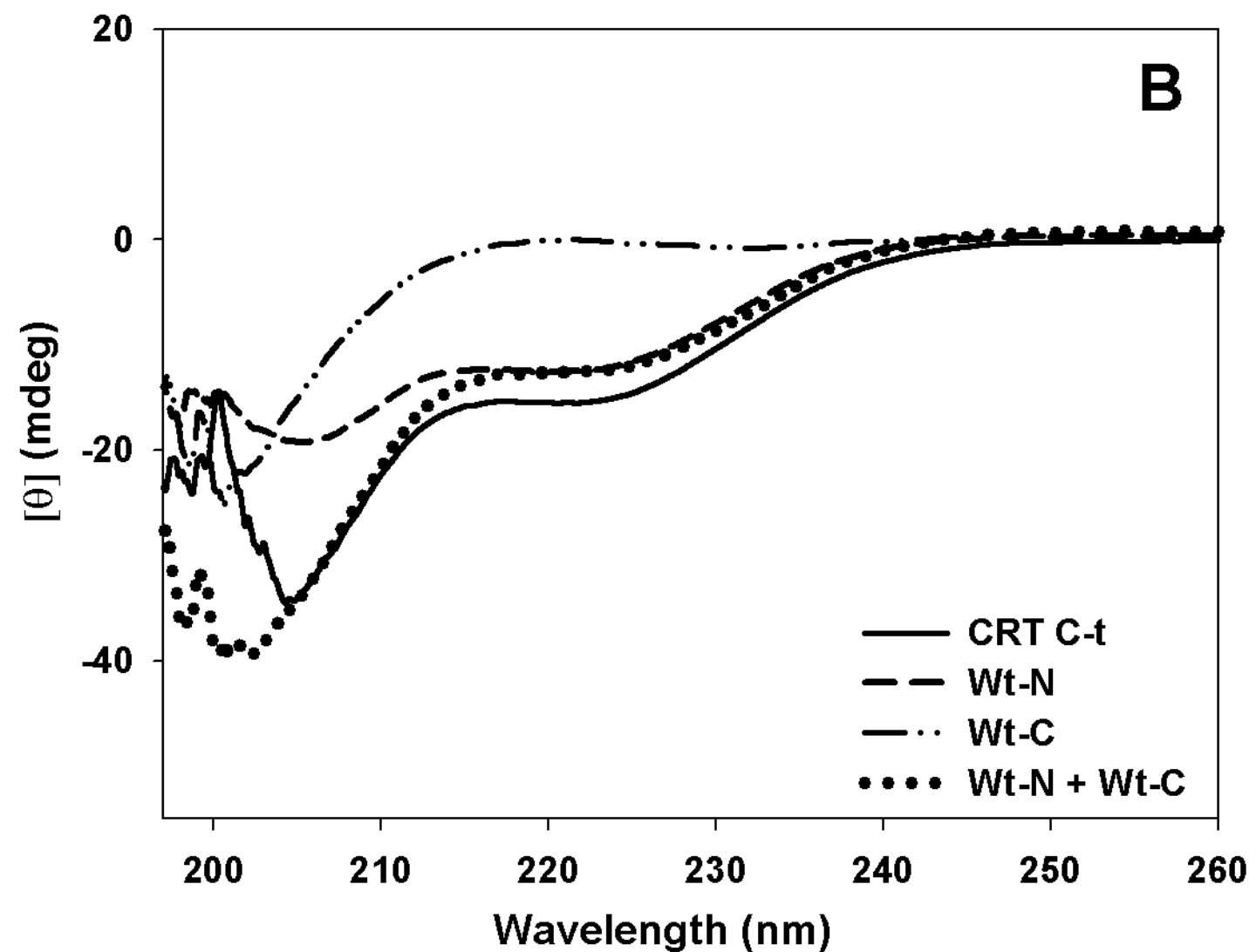
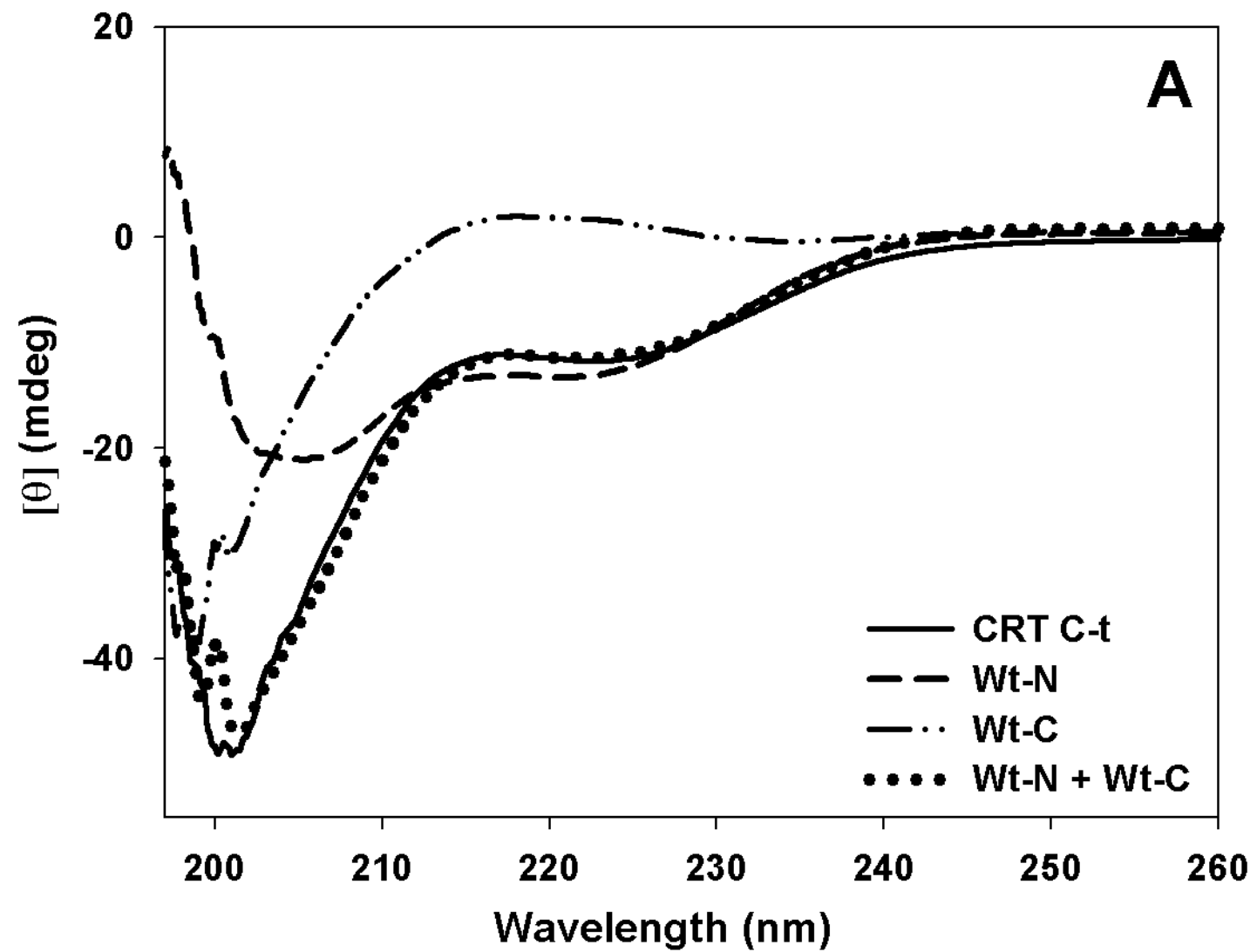
Supplemental Table.

Mus musculus (Mouse)	MKDKQDEEQRLLKEEEEDKKRKEEEEAEDKEDDDDRDEDEDEDEKKEDEEESPGQAKDEL
Oryctolagus cuniculus (Rabbit)	MKDKQDEEQRLLKEEEEEKKRKEEEEAEDEDEDKDDKEDDEDEDEKDEEEEAAGQAKDEL
Homo sapiens (Human)	MKDKQDEEQRLLKEEEEDKKRKEEEEAEDEDEDKDEDEDEDEKKEDEEEDVPGQAKDEL
Xenopus tropicalis (Western clawed frog)	MKEQQDEEDRKKQEEEEKKRKDEEPQEEEEDDDEEEKKEEKEEEDEEETPLKDEL
Danio rerio (Zebrafish)	MKDEQEKKRKEEEKNKEQNTAADEEEDEGEEEEEEDETEEPQDEGEDVLRKDEL
Haemaphysalis qinghaiensis	MKDKQEDEEAKSKKEDDAKDEEFDDEEKKDDEEAETTPAPGEEDDDHKHEEL
Ixodes scapularis (Black-legged tick)	MKEQQDEKEDKAEKKKDEKDEDFEEDDEDKKEDEEAPAGGDAEEHHQHDHEEL
Fenneropenaeus chinensis (Fleshy prawn)	MKDEQDEEERKRAEEEAACAADAEKDEEDDDDDDLGDEDEDLNDLHDEL
Eisenia foetida (Common brandling worm)	MKDKFDEEERKKREEEKKRKEEKDDGGAEEEDEDDDEDGDKDEKDDSETAEDKADDASQKDEL
Strongylocentrotus purpuratus (Purple sea urchin)	MKDEQDAEERKQREEDKRRKEEGDDEEGDEDEDLMDLDDLMDGFEDEEEEEEELQRDEL
Nematostella vectensis (Starlet sea anemone)	MKDEQDEIERKKAEEEKKRKEEESKKKDEKKEEED
Drosophila melanogaster (Fruit fly)	MKEAQDEVQRKKDEEAKKASDKDDEDEDDDEEKDDESKQDKDQSEHDEL
Aedes aegypti (Yellowfever mosquito)	IKEAQEAERKKAEEEAKAEDAEDKDDDELDDDEEENTLGEAEVEEGHDEL
Caenorhabditis elegans	DKLKTVEKKEKKADEETRKAEFEARKKAEEKKAKKDDDEEKEEEEGHDEL
Trypanosoma cruzi	KVMEDMEKERRKKEEEREKKEKNPEEKDEEELKGRDKEDL
Ricinus communis (Castor bean)	KNKDAEKAAFEEAEKKKEEESKDDPADSDAEDDDDDADTEGEDDGESKSDAAEDSAEDVHDEL
<u>Zea mays (Maize)</u>	GKHKEAEKAAFDEAEKKKEEEDAAGGDEDDDLLEDEDEKAEDEKADSDAEDSKSDDEKQHDEL
<u>Euglena gracilis</u>	KDAEKKAFDSAEADKKRKEEDERKKQEEEEKKTAEEDEDDDEEEDDKDEL

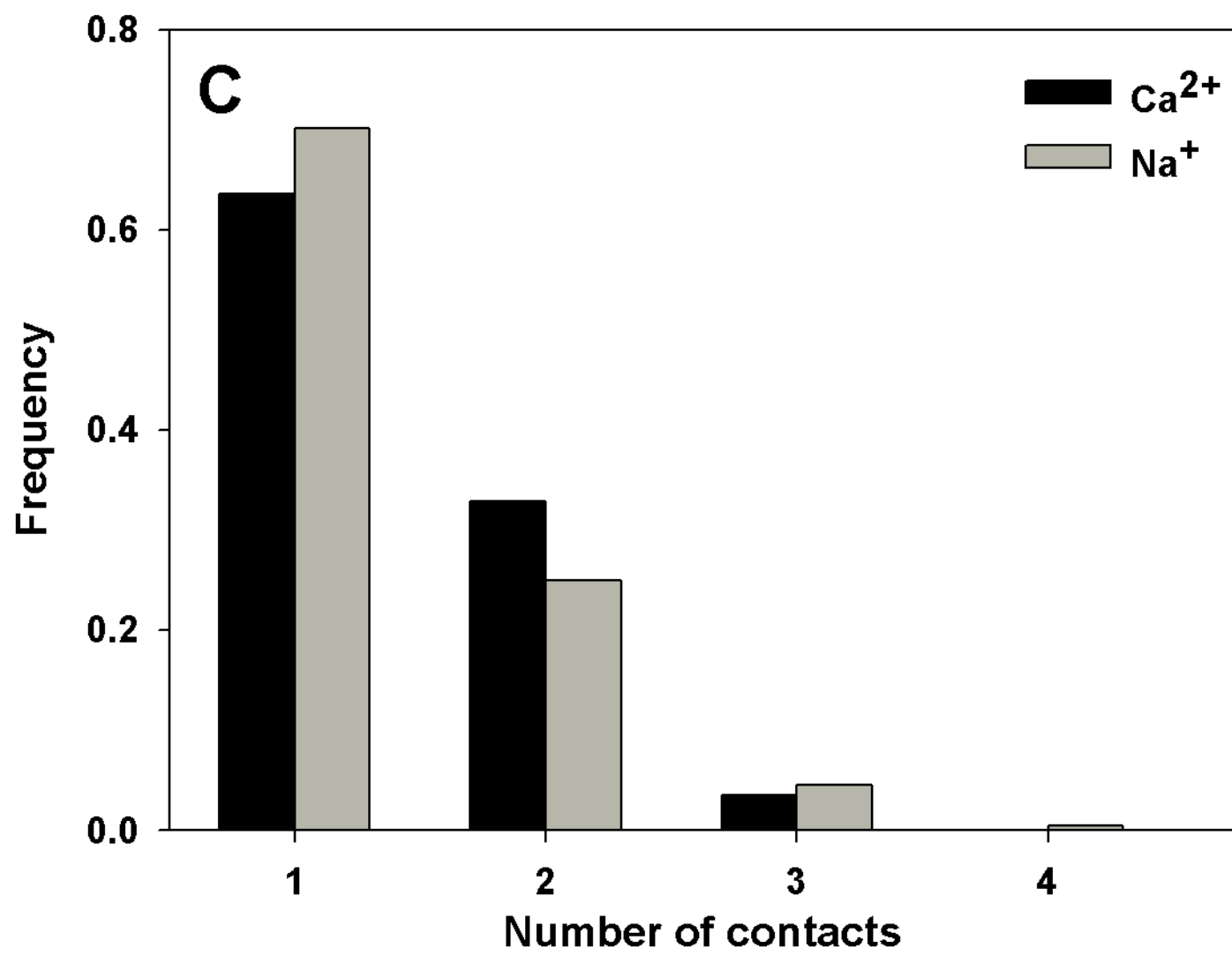
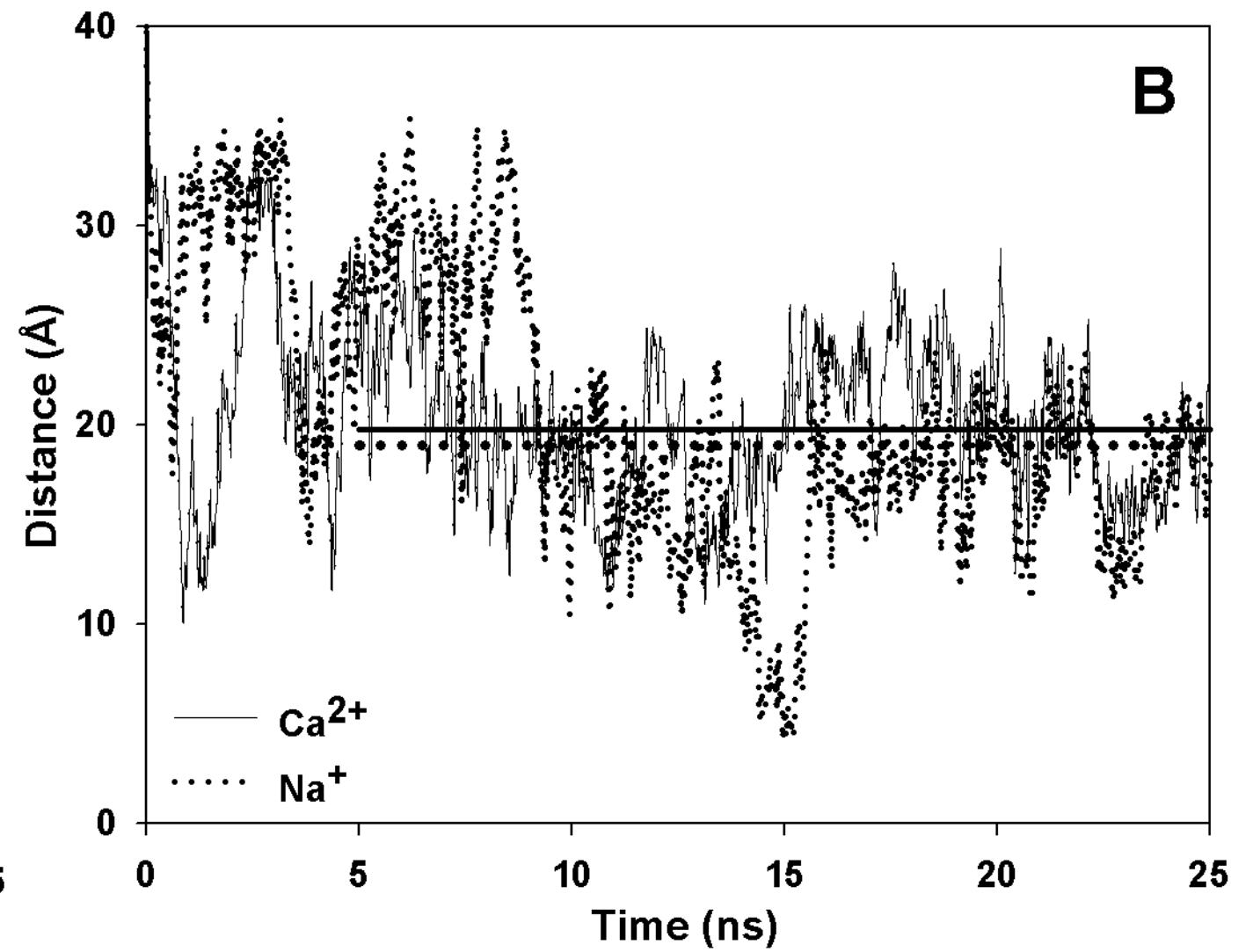
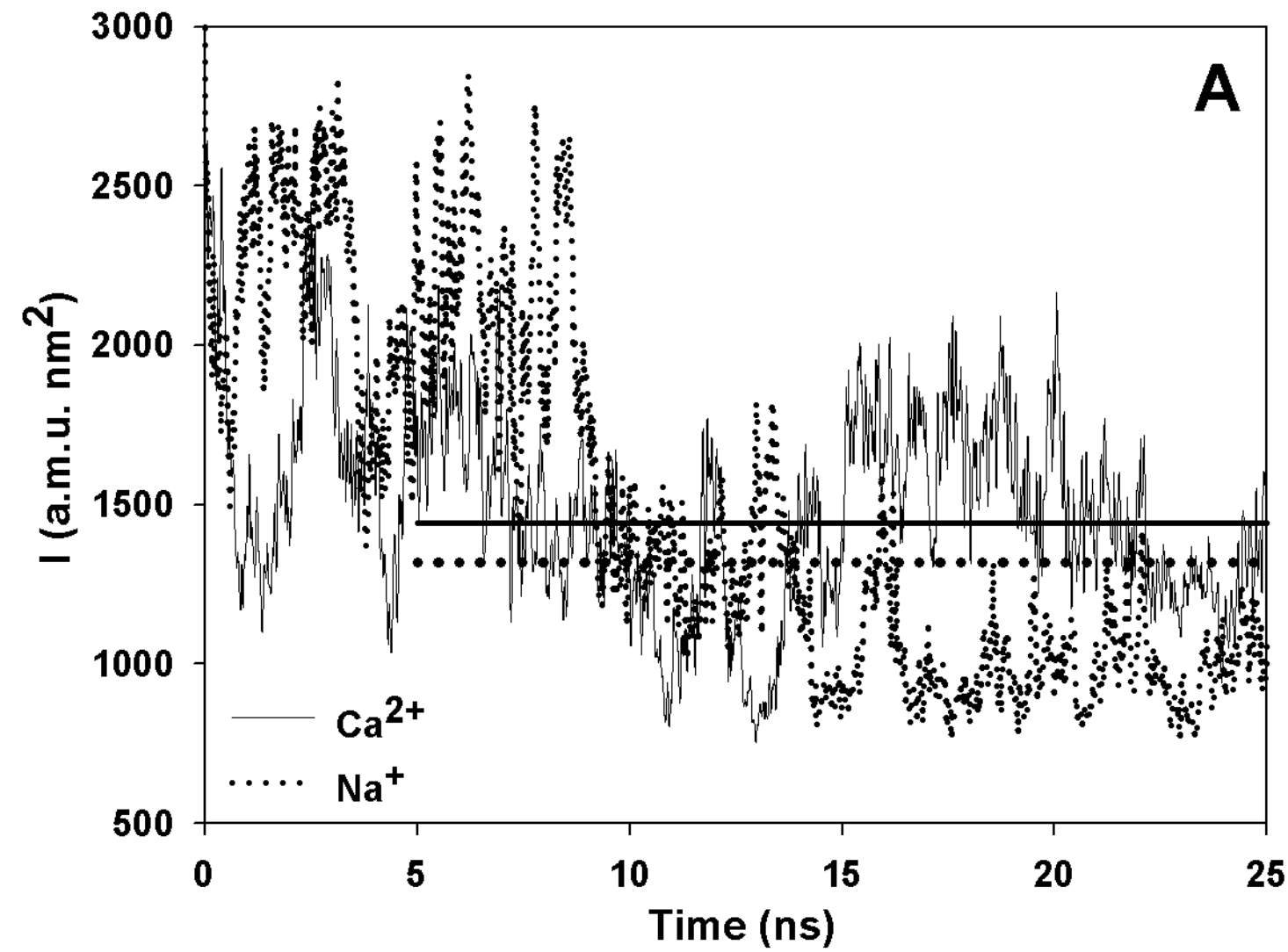
Supplemental Figure 1



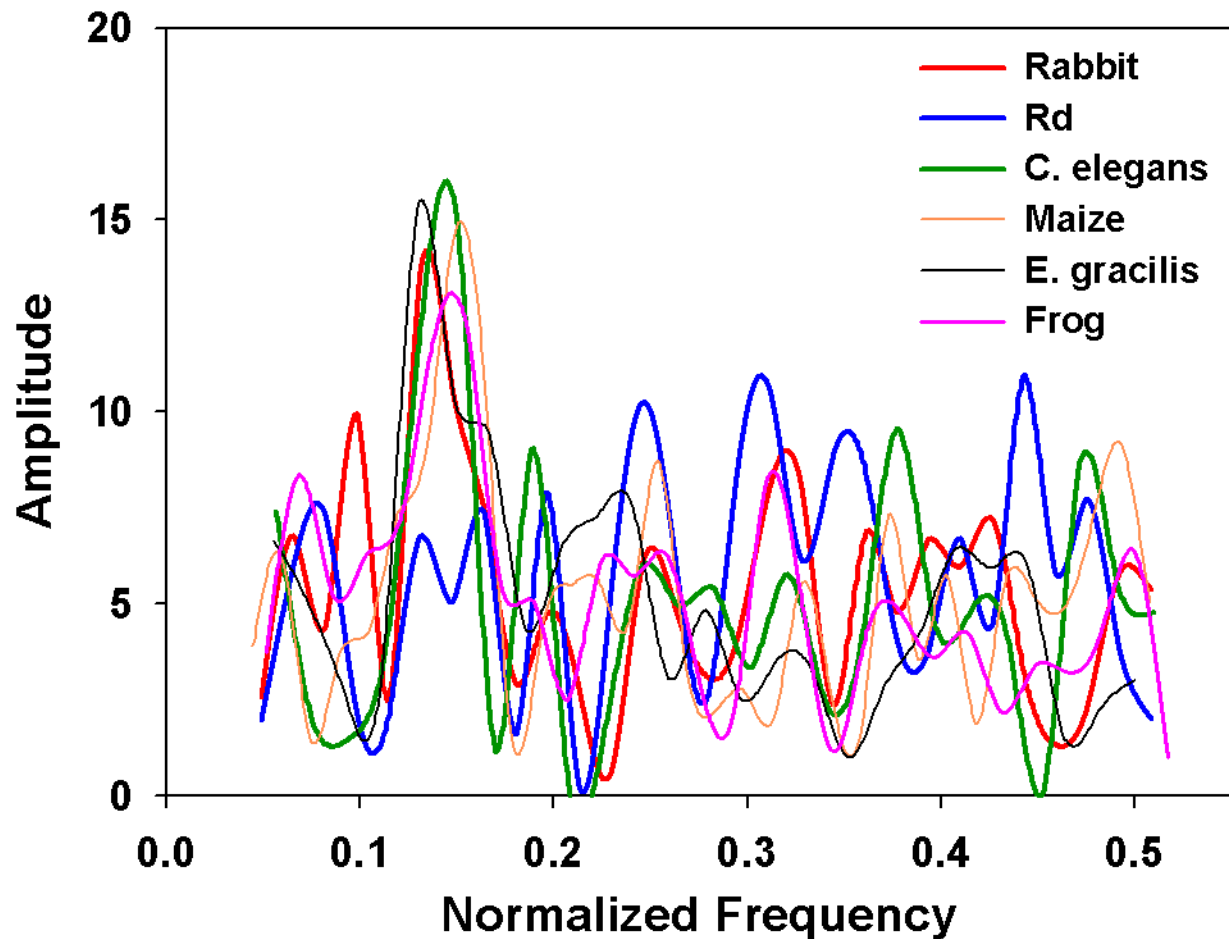
Supplemental Figure 2



Supplemental Figure 3



Supplemental Figure 4



Supplemental Figure 5

