

Figure 1: Gel filtration trace and SDS-PAGE. A) Annotated SEC trace showing YloC elutes in a symmetric peak at the expected elution volume for a hexamer. B) SDS-PAGE gel comparing pre-FPLC samples and the post-FPLC peak fraction.

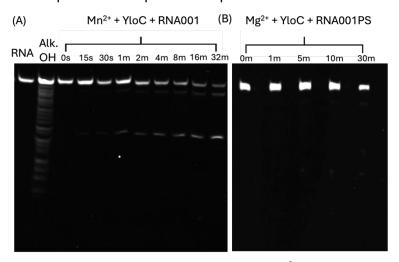


Figure 2: Representative nuclease assays. A)  $Mn^{2+}/YloC + RNA001$  shows a preference for the smaller product. B)  $Mg^{2+}/YloC + RNA001PS$  (phosphorothioate) abrogates cleavage.

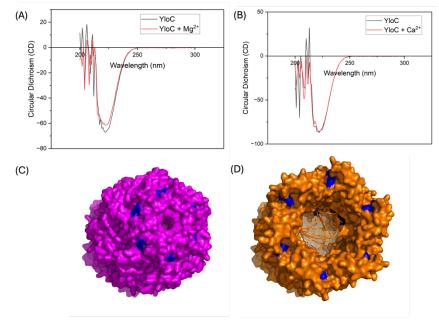


Figure 3: Divalent cations alter YloC structure. CD spectra of A) YloC and YloC +  $Mg^{2+}$  and B) YloC and YloC +  $Ca^{2+}$ . Top alphafold models for YloC/RNA and A)  $Mg^{2+}$  or B)  $Ca^{2+}$ .