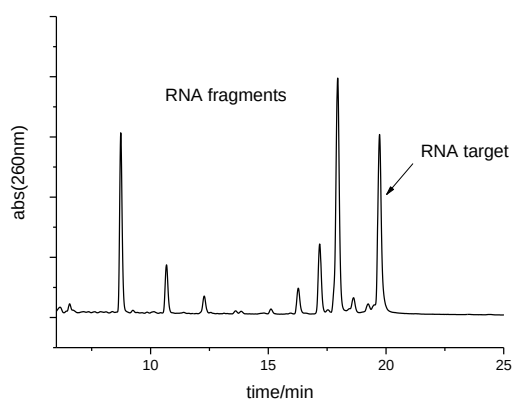


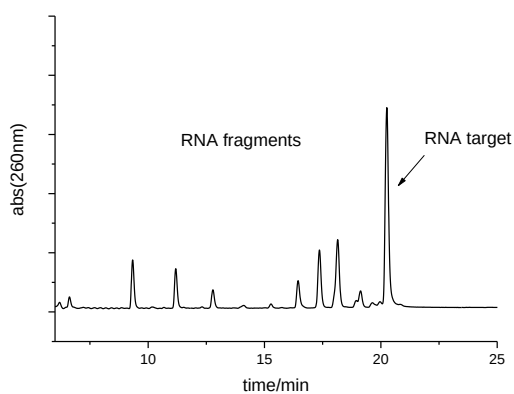
Supplementary

Figure S1. IE-HPLC analysis of 4-nucleotide bulge RNA cleavage reactions in the presence of **PNAzyme1** and RNA (1:1, PNAzyme:RNA). Reactions were carried out using 100 μM effective concentration of Zn^{2+} and were analyzed at the 24 h time point (pH 7.4, 37 °C).

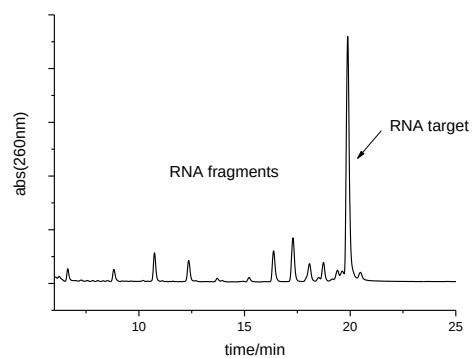
RNA1, (4-nucleotide bulge: 5'-AAAA-3')



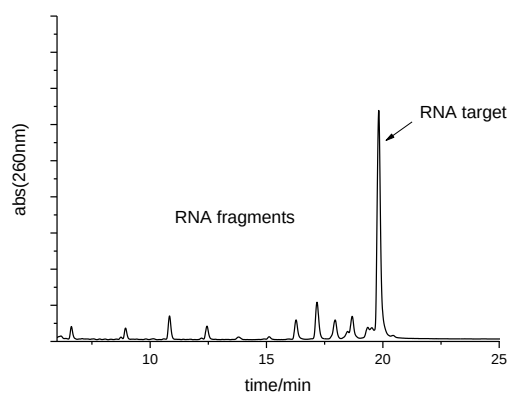
RNA2, (4-nucleotide bulge: 5'-AAAG-3')



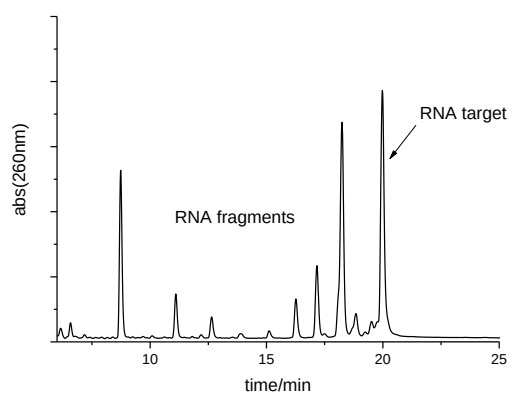
RNA3, (4-nucleotide bulge: 5'-AAAC-3')



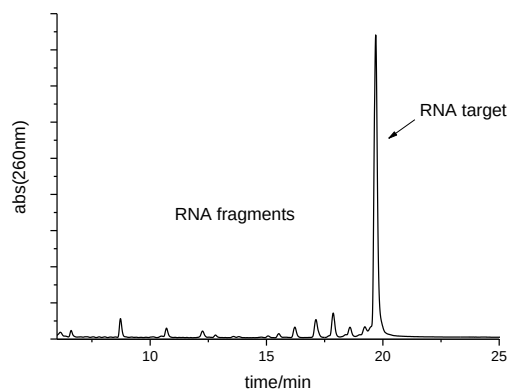
RNA4, (4-nucleotide bulge: 5'-AAAU-3')



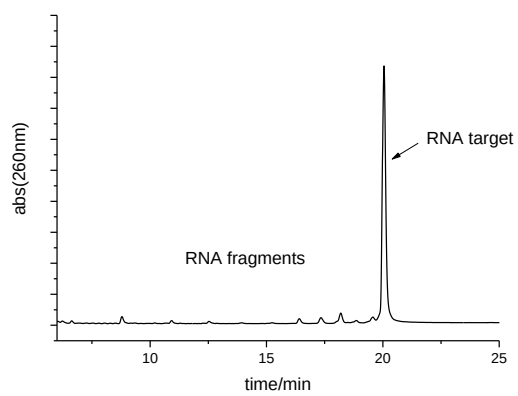
RNA5, (4-nucleotide bulge: 5'-AAGA-3')



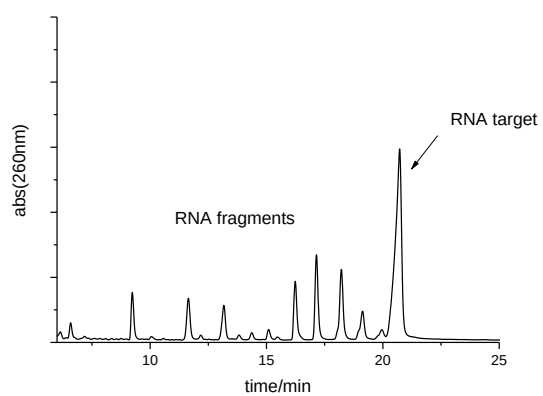
RNA6, (4-nucleotide bulge: 5'-AACA-3')



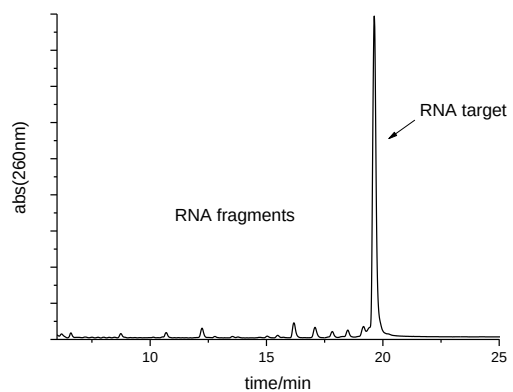
RNA7, (4-nucleotide bulge: 5'-AAUA-3')



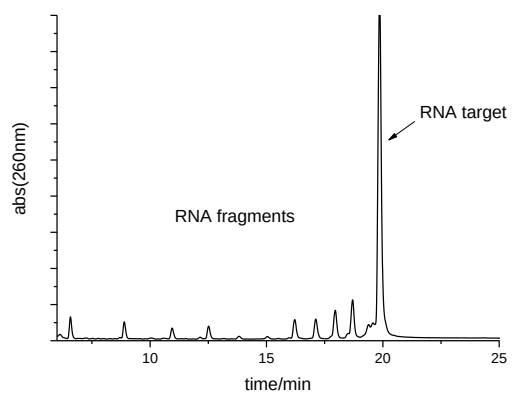
RNA8, (4-nucleotide bulge: 5'-AAGG-3')



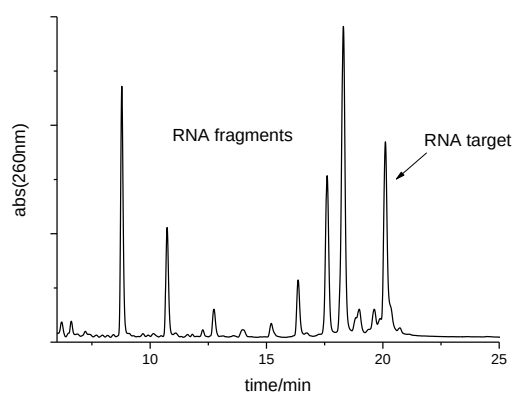
RNA9, (4-nucleotide bulge: 5'-AACC-3')



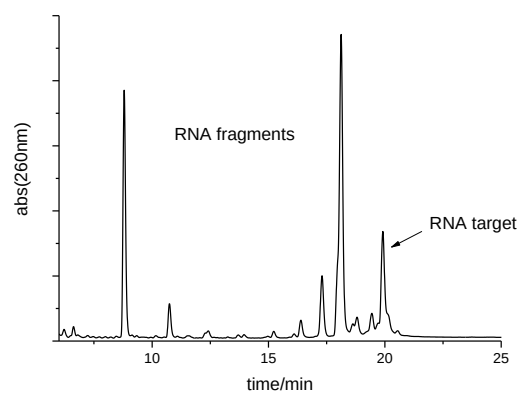
RNA10, (4-nucleotide bulge: 5'-AAUU-3')



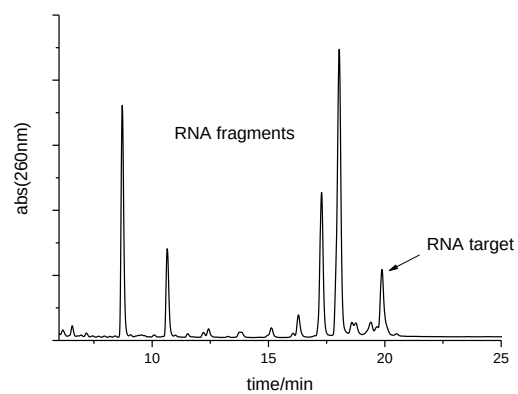
RNA11, (4-nucleotide bulge: 5'-AGAA-3')



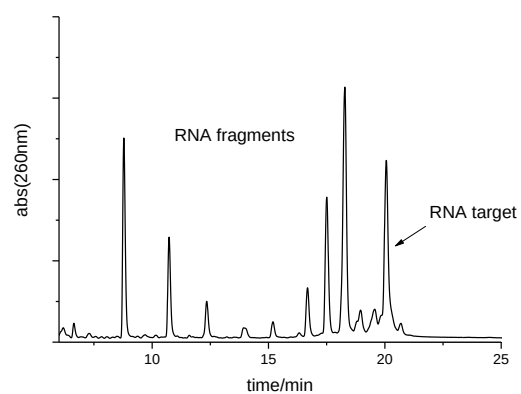
RNA12, (4-nucleotide bulge: 5'-ACAA-3')



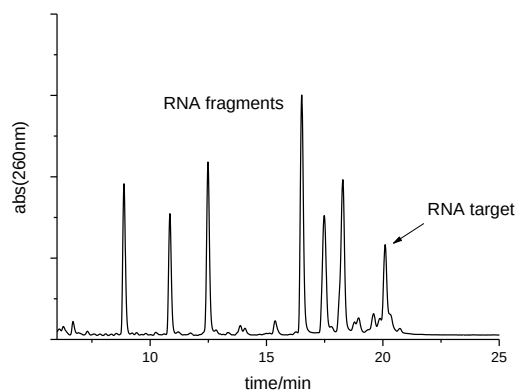
RNA13, (4-nucleotide bulge: 5'-AUAA-3')



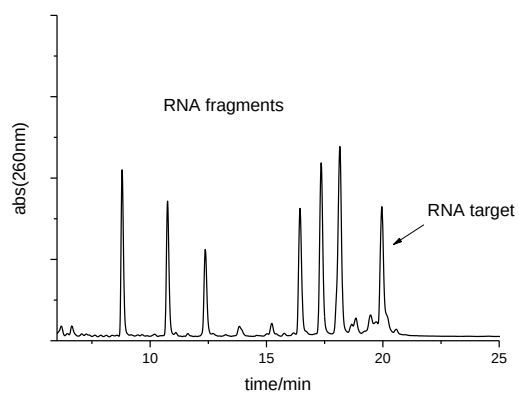
RNA14, (4-nucleotide bulge: 5'-GAAA-3')



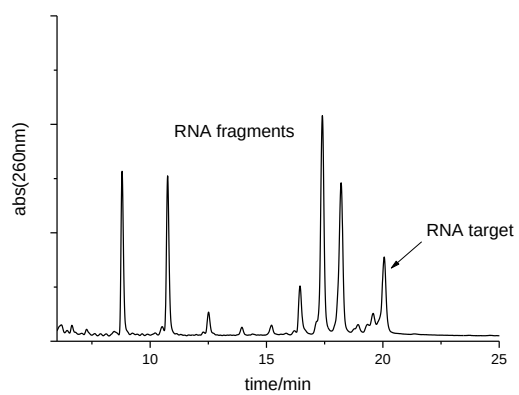
RNA15, (4-nucleotide bulge: 5'-CAAA-3')



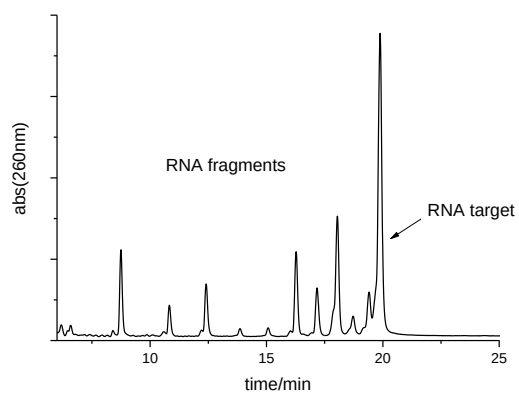
RNA16, (4-nucleotide bulge: 5'-UAAA-3')



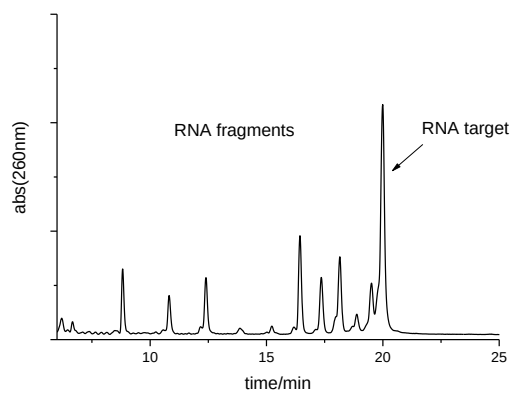
RNA17, (4-nucleotide bulge: 5'-UUAA-3')



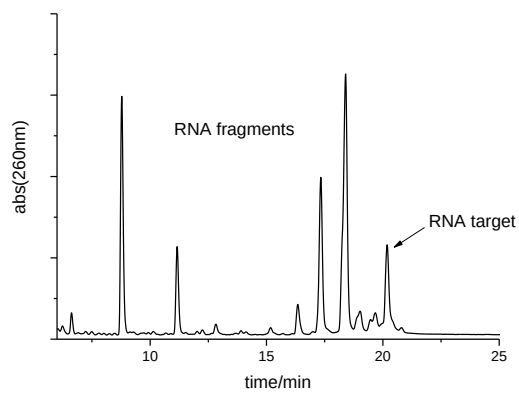
RNA18, (4-nucleotide bulge: 5'-UUUA-3')



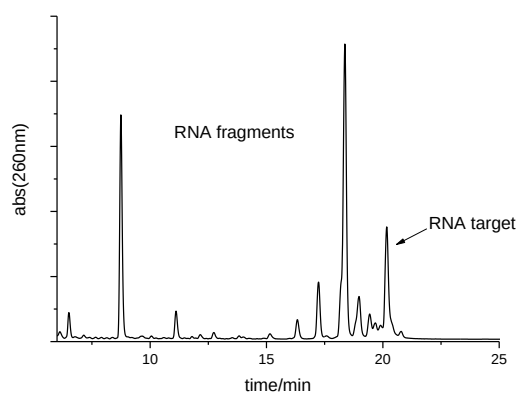
RNA19, (4-nucleotide bulge: 5'-UAUA-3')



RNA20, (4-nucleotide bulge: 5'-AUGA-3')



RNA21, (4-nucleotide bulge: 5'-ACGA-3')



RNA22, (4-nucleotide bulge: 5'-CUGA-3')

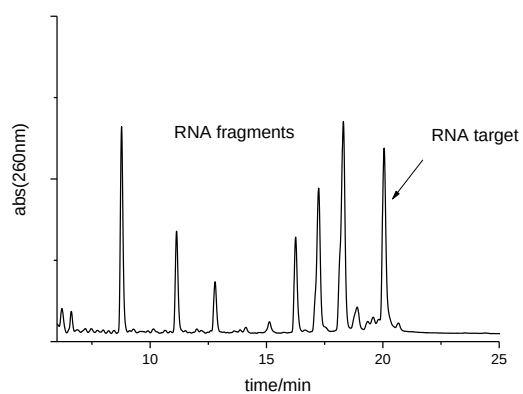
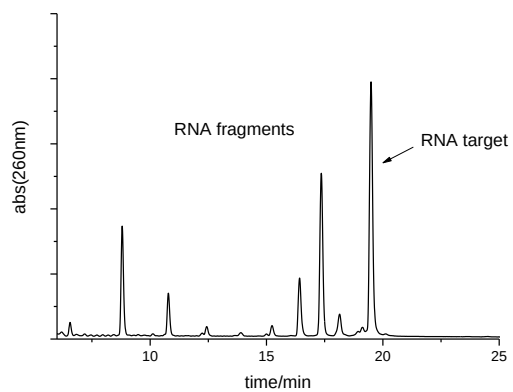
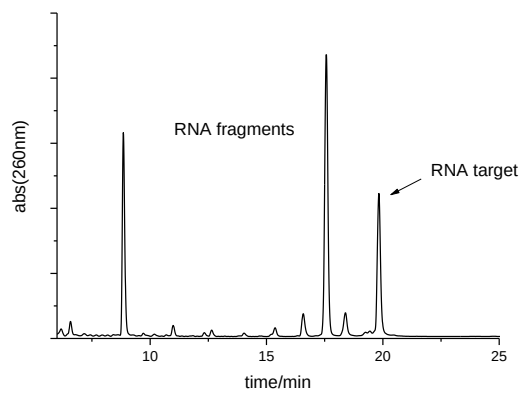


Figure S2. IE-HPLC analysis of 3-nucleotide bulge RNA cleavage reactions in the presence of **PNAzyme1** and RNA (1:1, PNAzyme:RNA). Reactions were carried out using 100 μ M effective concentration of Zn^{2+} and were analyzed at the 24 h time point (pH 7.4, 37 °C).

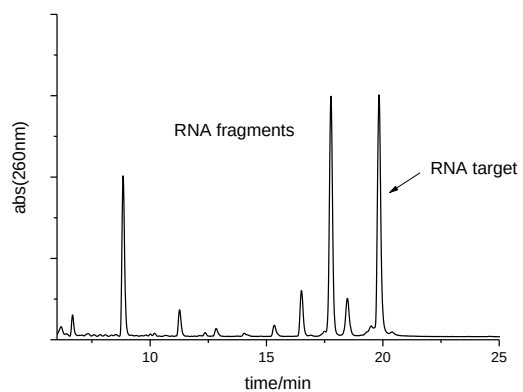
RNA23, (3-nucleotide bulge: 5'-AAA-3')



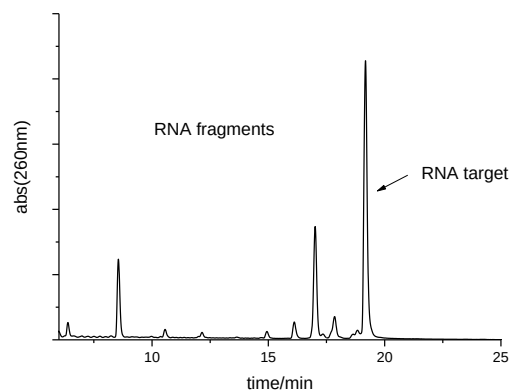
RNA24, (3-nucleotide bulge: 5'-AUA-3')



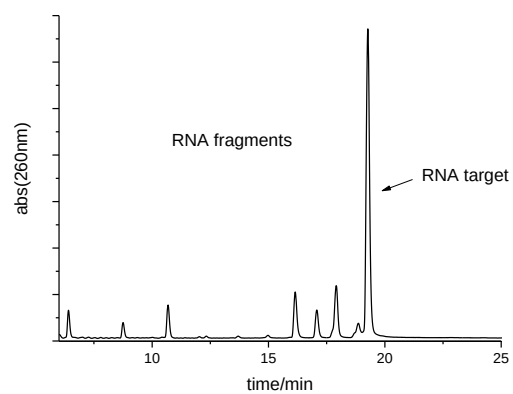
RNA25, (3-nucleotide bulge: 5'-AGA-3')



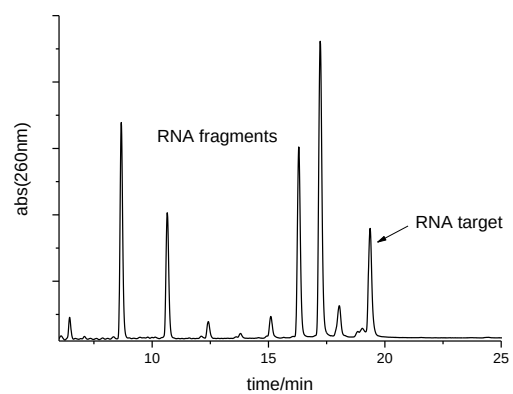
RNA26, (3-nucleotide bulge: 5'-ACA-3')



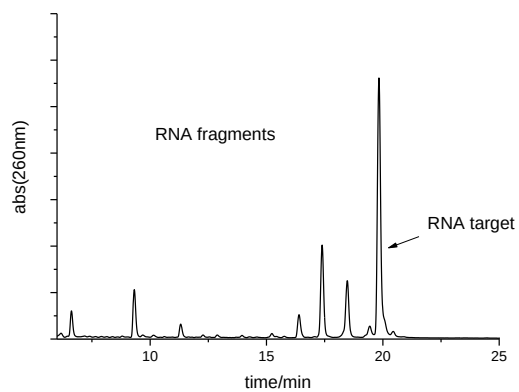
RNA27, (3-nucleotide bulge: 5'-AAU-3')



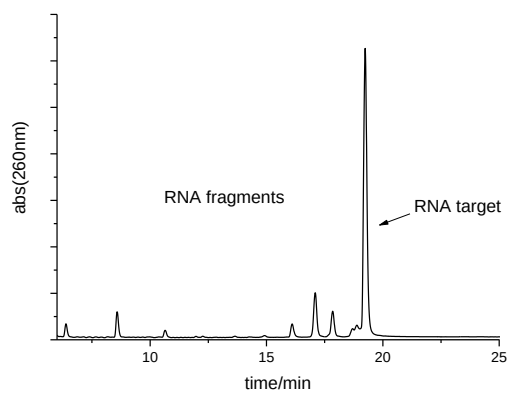
RNA28, (3-nucleotide bulge: 5'-UAA-3')



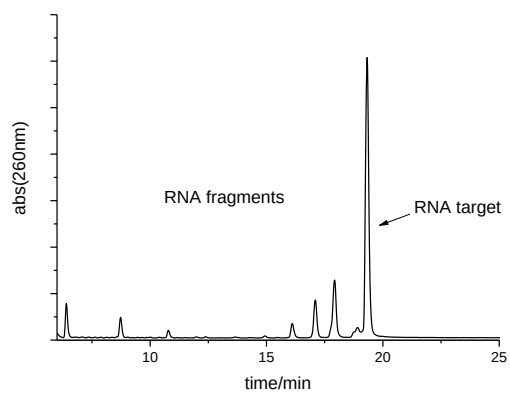
RNA29, (3-nucleotide bulge: 5'-AUG-3')



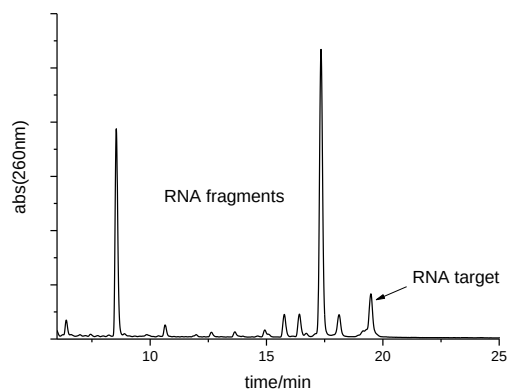
RNA30, (3-nucleotide bulge: 5'-AUC-3')



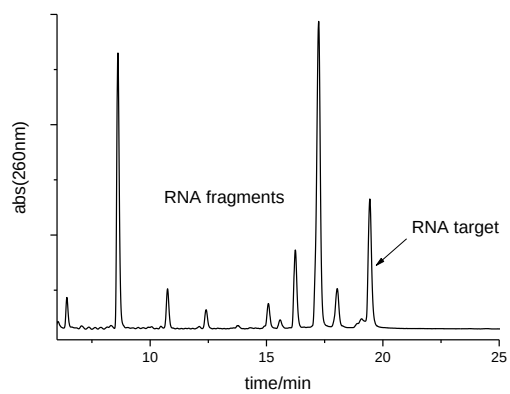
RNA31, (3-nucleotide bulge: 5'-AUU-3')



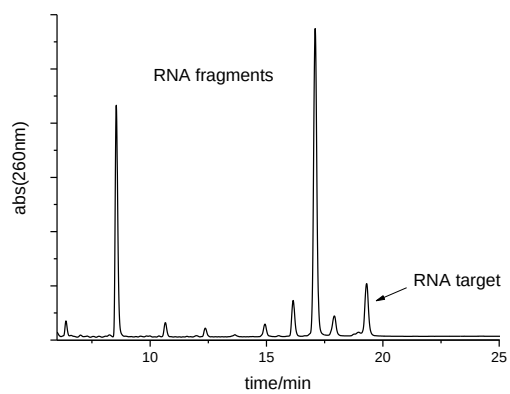
RNA32, (3-nucleotide bulge: 5'-GUA-3')



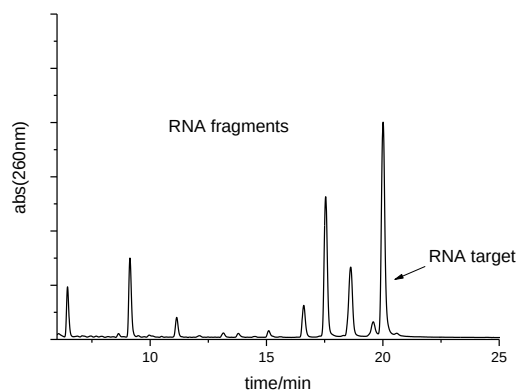
RNA33, (3-nucleotide bulge: 5'-CUA-3')



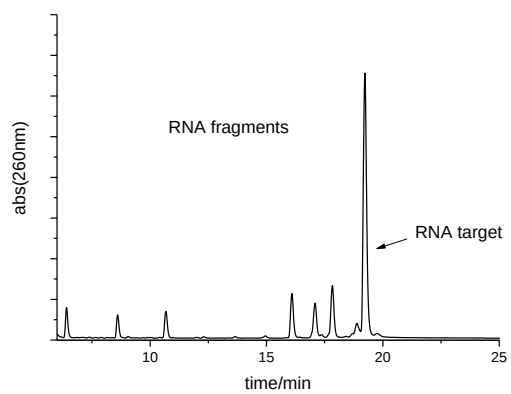
RNA34, (3-nucleotide bulge: 5'-UUA-3')



RNA35, (3-nucleotide bulge: 5'-GUG-3')



RNA36, (3-nucleotide bulge: 5'-CUC-3')



RNA37, (3-nucleotide bulge: 5'-ACG-3')

