

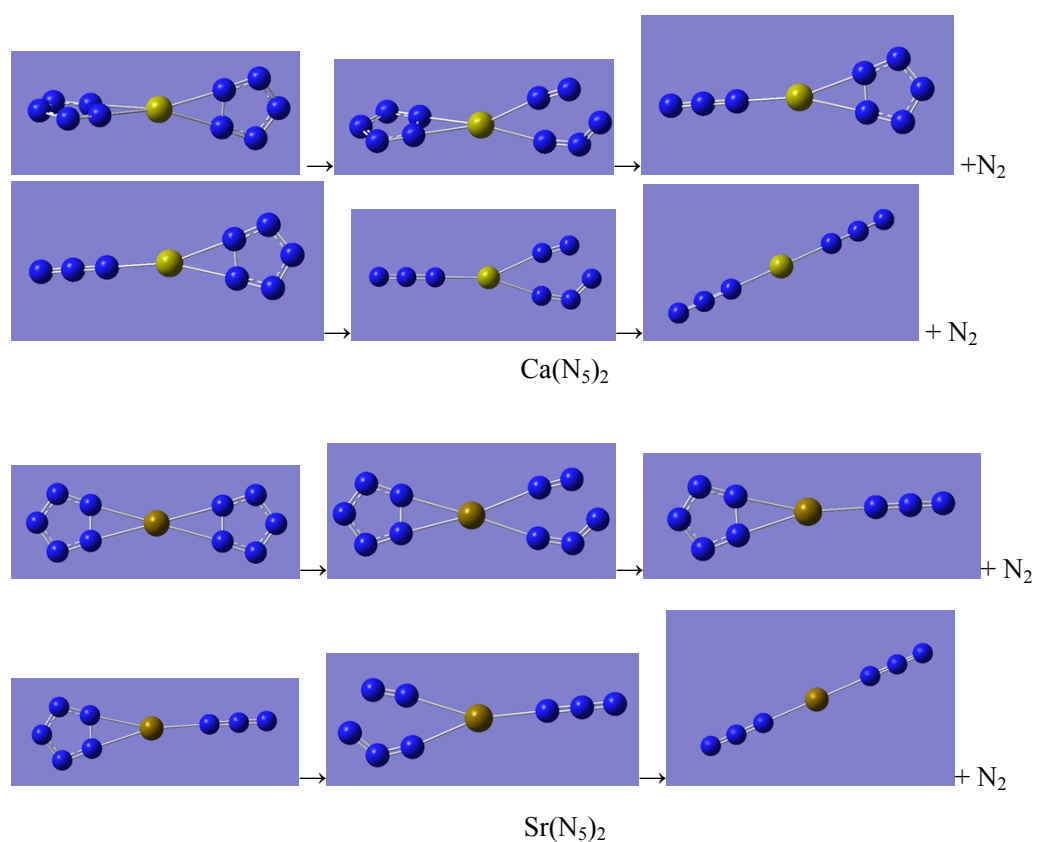
Table S1 Single point energies at the MP2/gen level

	Mg(N ₅) ₂		Ca(N ₅) ₂		Sr(N ₅) ₂		Ba(N ₅) ₂
I	-547.02988	II	-582.52523		-576.41790		-571.22260
II	-547.04801	V	-582.52695		-576.41757		-571.22281
III	-547.03997	VII	-582.47740		-576.37978		-571.19974
IV	-547.03079	VIII	-582.47741		-576.37975		-571.19973
V	-547.05077	IX	-582.47741		-576.37977		-571.19971
VI	-547.04119						

Table S2 Single point energies at the MP4/gen level*

	Mg(N ₅) ₂		Ca(N ₅) ₂		Sr(N ₅) ₂		Ba(N ₅) ₂
I	-547.03480	II	-582.52854		-576.42150		-571.22557
II	-547.05078	V	-582.53017		-576.42093		-571.22576
III	-547.04382	VII	-582.47918		-576.38140		-571.20101
IV	-547.03572	VIII	-582.47918		-576.38137		-571.20101
V	-547.05345	IX	-582.47919		-576.38138		-571.20099
VI	-547.04496						

*Since results obtained at MP4D, MP4DQ, MP4SDQ and MP4SDTQ levels show the same conclusion, only that of MP4D are shown here.



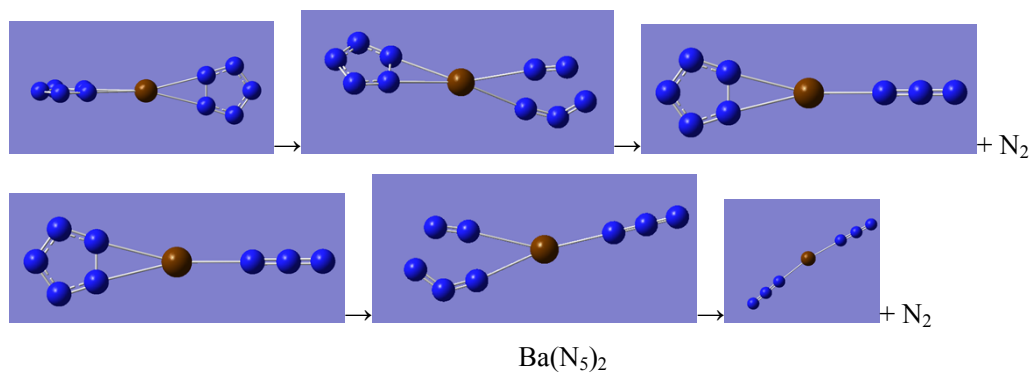


Figure S1 Decomposition paths of $\text{Ca}(\text{N}_5)_2$, $\text{St}(\text{N}_5)_2$ and $\text{Ba}(\text{N}_5)_2$