

Supporting Information

for

**Characterization of Bleomycin Mediated Cleavage of a
Hairpin DNA Library**

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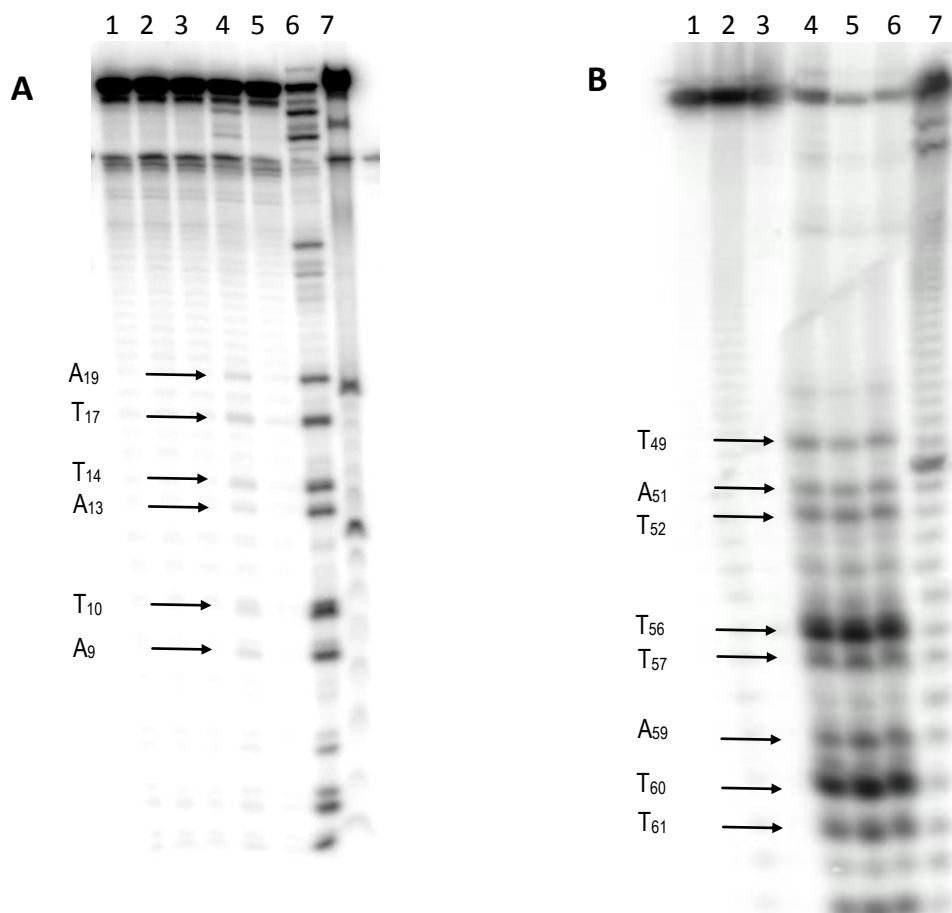


Figure S1. A) Sequence-selective cleavage of [5'-³²P]-end labeled 64-nt hairpin DNA **1** by BLM A₅. Lane 1, radiolabeled **1** alone; lane 2, 20 μM Fe²⁺; lane 3, 5 μM BLM A₅; lane 4, 5 μM Fe(II)•BLM A₅; lane 5, 20 μM BLM A₅; lane 6, 20 μM Fe(II)•BLM A₅; lane 7, G lane. B) Sequence-selective cleavage of [3'-³²P] end labeled 64-nt hairpin DNA **1** by BLM A₅. Lane 1, radiolabeled **1** alone; lane 2, 10 μM Fe²⁺; lane 3, 10 μM BLM A₅; lane 4, 1 μM Fe(II)•BLM A₅; lane 5, 5 μM Fe(II)•BLM A₅; lane 6, 10 μM Fe(II)•BLM A₅; lane 7, G lane.

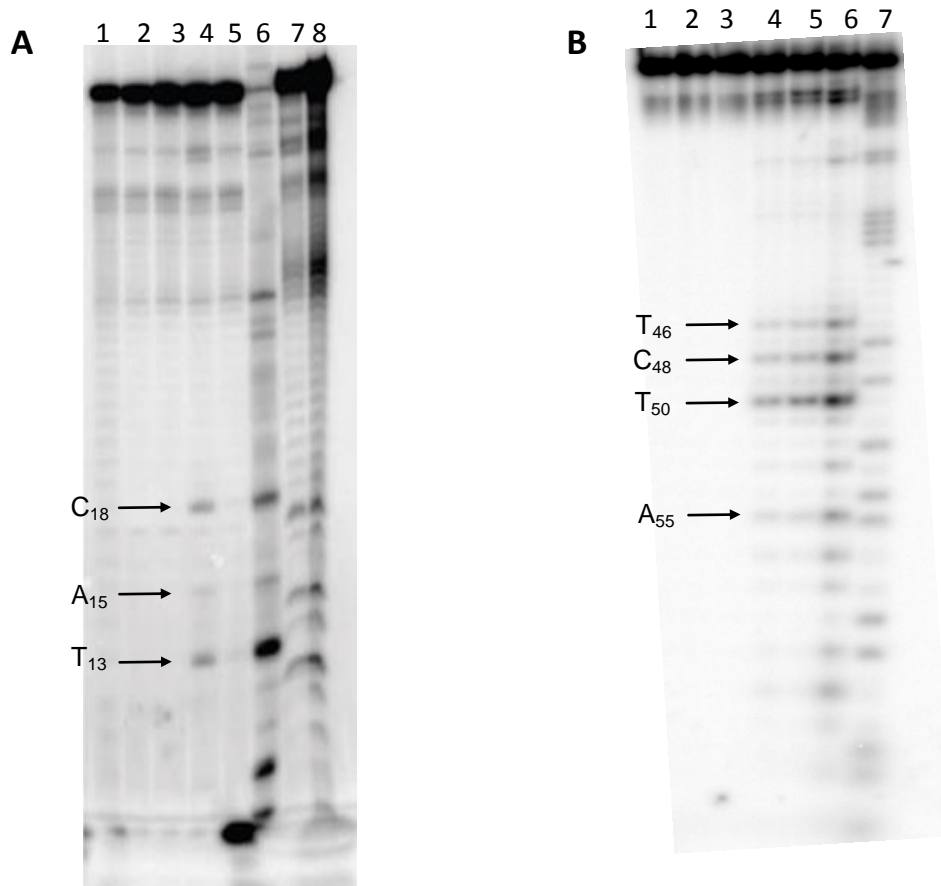
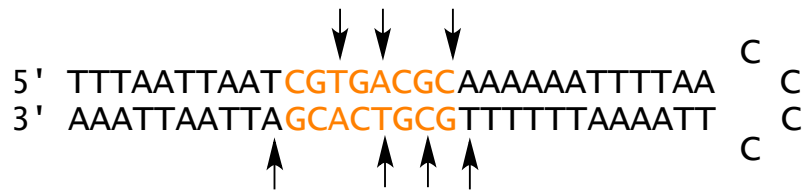


Figure S2. A) Sequence-selective cleavage of [5'-³²P]-end labeled 64-nt hairpin DNA **2** by BLM A₅. Lane 1, radiolabeled **2** alone; lane 2, 20 μM Fe²⁺; lane 3, 5 μM BLM A₅; lane 4, 5 μM Fe(II)•BLM A₅; lane 5, 20 μM BLM A₅; lane 6, 20 μM Fe(II)•BLM A₅; lane 7, G+A lane; lane 8, G lane. B) Sequence-selective cleavage of [3'-³²P]-end labeled 64-nt hairpin DNA **2** by BLM A₅. Lane 1, radiolabeled **2** alone; lane 2, 10 μM Fe²⁺; lane 3, 10 μM BLM A₅; lane 4, 1 μM Fe(II)•BLM A₅; lane 5, 5 μM Fe(II)•BLM A₅; lane 6, 10 μM Fe(II)•BLM A₅; lane 7, G+A lane.

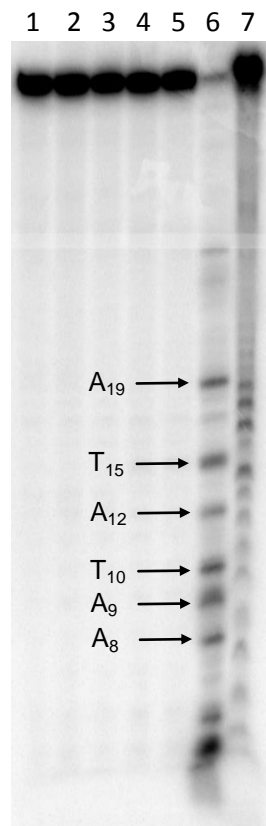


Figure S3. Sequence-selective cleavage of [5'-³²P]-end labeled 64-nt hairpin DNA **3** by BLM A₅. Lane 1, radiolabeled **3** alone; lane 2, 20 μM Fe²⁺; lane 3, 5 μM BLM A₅; lane 4, 5 μM Fe(II)•BLM A₅; lane 5, 20 μM BLM A₅; lane 6, 20 μM Fe(II)•BLM A₅; lane 7, G lane.

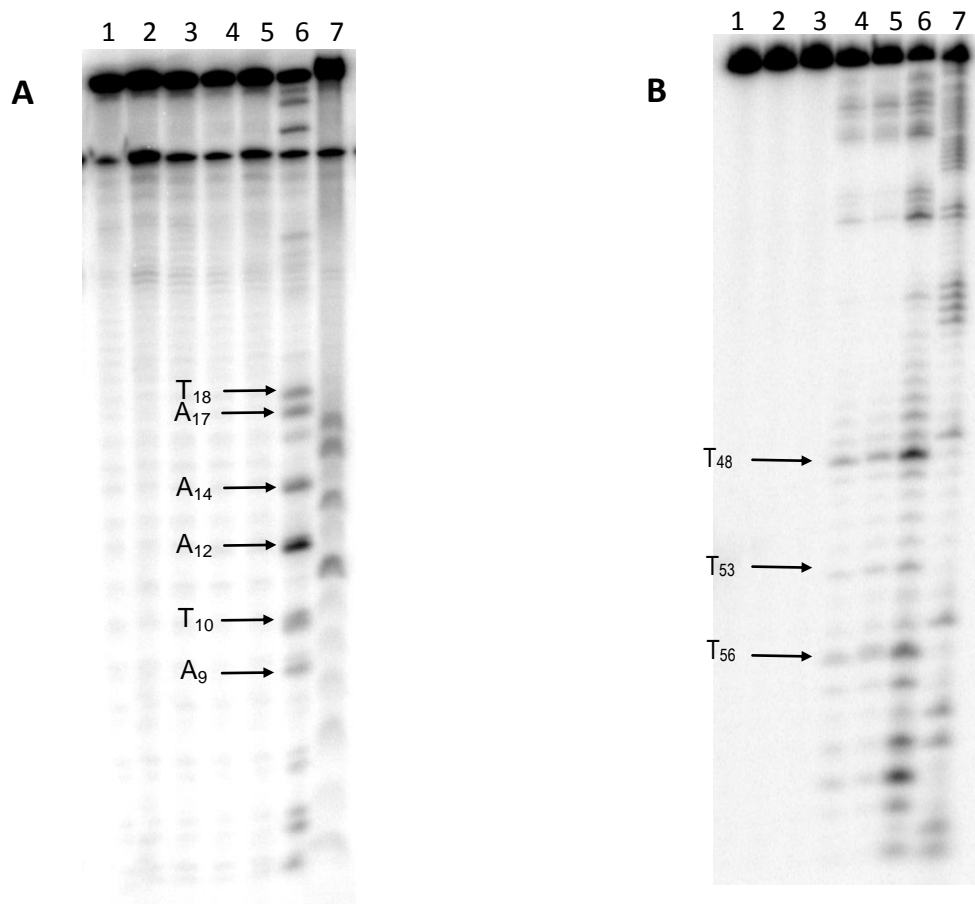


Figure S4. A) Sequence-selective cleavage of [5'-³²P]-end labeled 64-nt hairpin DNA **4** by BLM A₅. Lane 1, radiolabeled **4** alone; lane 2, 20 μM Fe²⁺; lane 3, 5 μM BLM A₅; lane 4, 5 μM Fe(II)•BLM A₅; lane 5, 20 μM BLM A₅; lane 6, 20 μM Fe(II)•BLM A₅; lane 7, G lane. B) Sequence-selective cleavage of [3'-³²P] end labeled 64-nt hairpin DNA **4** by BLM A₅. Lane 1, radiolabeled **4** alone; lane 2, 10 μM Fe²⁺; lane 3, 5 μM BLM A₅; lane 4, 1 μM Fe(II)•BLM A₅; lane 5, 5 μM Fe(II)•BLM A₅; lane 6, 10 μM Fe(II)•BLM A₅; lane 7, G+A lane.

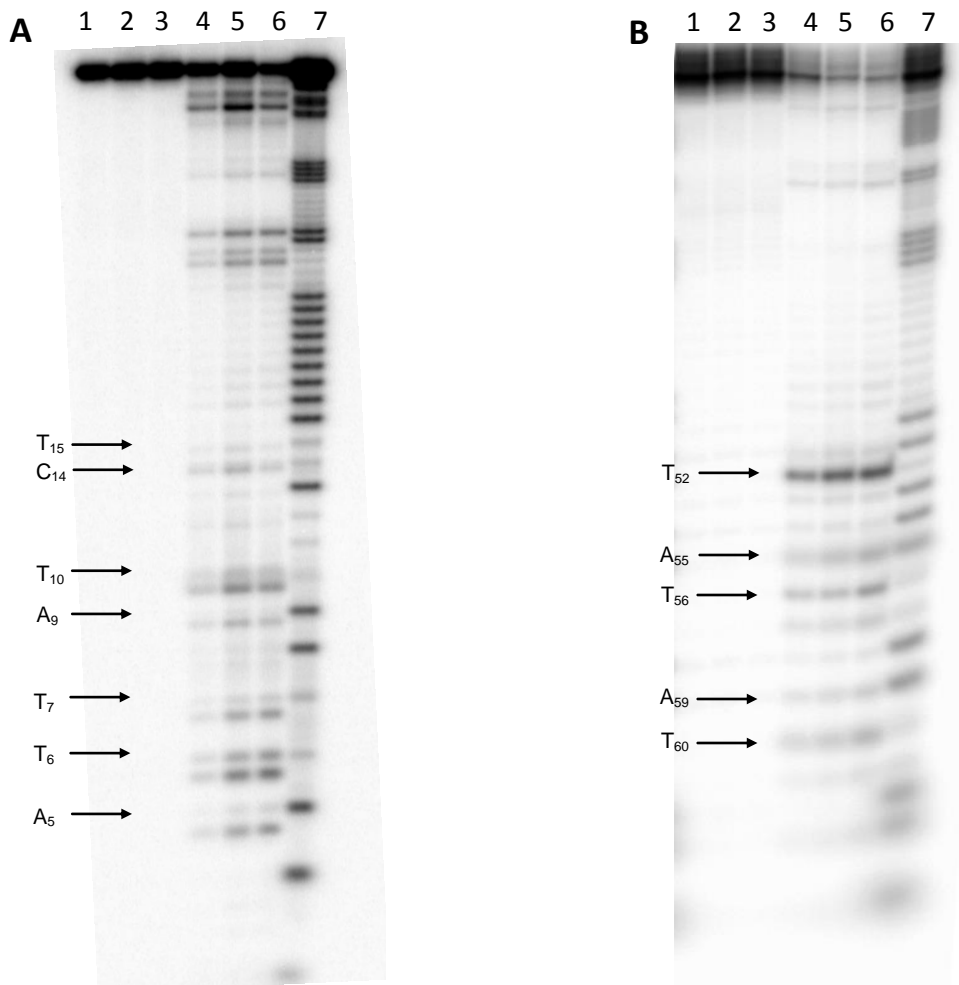


Figure S5. A) Sequence-selective cleavage of [5'-³²P]-end labeled 64-nt hairpin DNA **6** by BLM A₅. Lane 1, radiolabeled **6** alone; lane 2, 5 μM Fe²⁺; lane 3, 5 μM BLM A₅; lane 4, 1 μM Fe(II)•BLM A₅; lane 5, 2.5 μM Fe(II)•BLM A₅; lane 6, 5 μM Fe(II)•BLM A₅; lane 7, G+A lane. B) Sequence-selective cleavage of [3'-³²P]-end labeled 64-nt hairpin DNA **6** by BLM A₅. Lane 1, radiolabeled **6** alone; lane 2, 10 μM Fe²⁺; lane 3, 5 μM BLM A₅; lane 4, 1 μM Fe(II)•BLM A₅; lane 5, 2.5 μM Fe(II)•BLM A₅; lane 6, 5 μM Fe(II)•BLM A₅; lane 7, G+A lane.

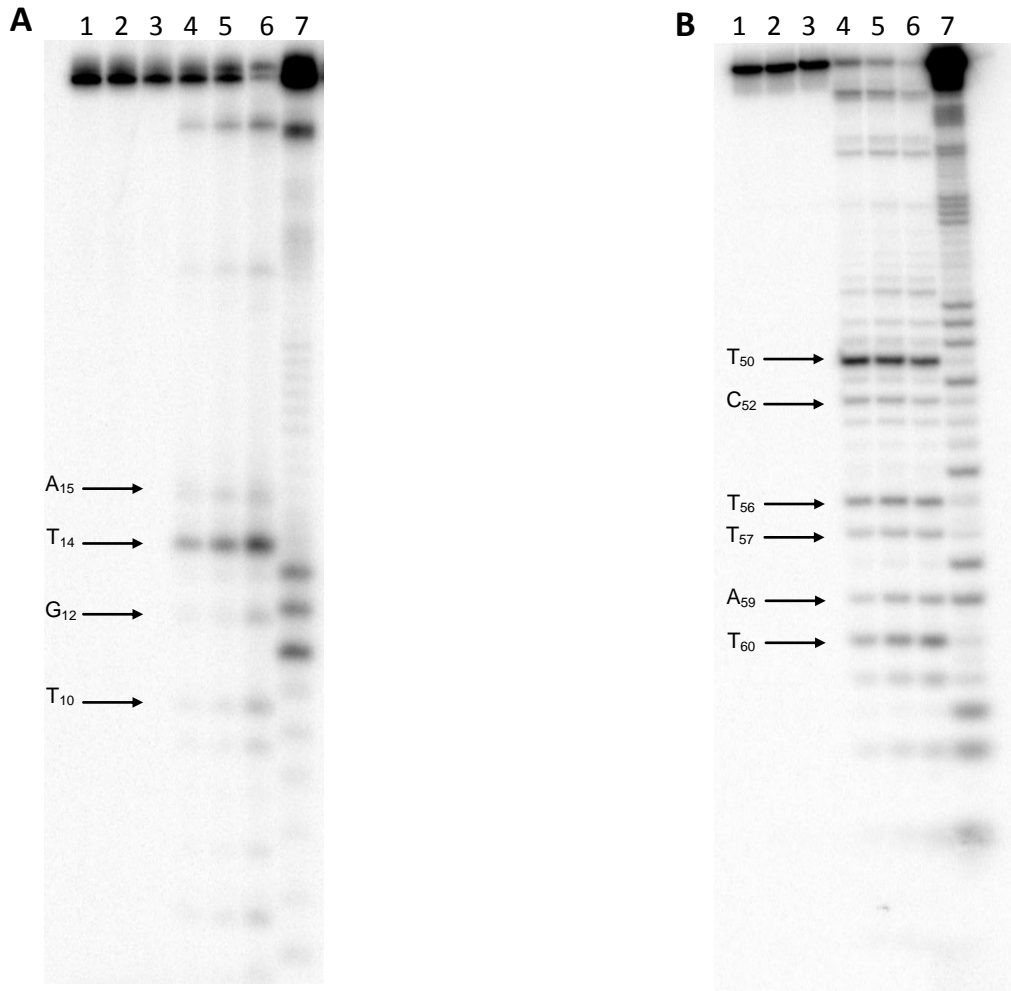
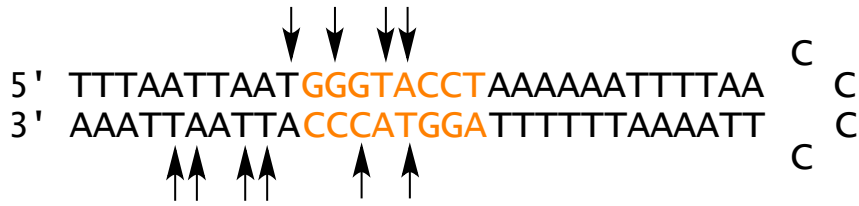


Figure S6. A) Sequence-selective cleavage of [5'-³²P]-end labeled 64-nt hairpin DNA **8** by BLM A₅. Lane 1, radiolabeled **8** alone; lane 2, 5 μM Fe²⁺; lane 3, 5 μM BLM A₅; lane 4, 1 μM Fe(II)·BLM A₅; lane 5, 2.5 μM Fe(II)·BLM A₅; lane 6, 5 μM Fe(II)·BLM A₅; lane 7, G lane. B) Sequence-selective cleavage of [3'-³²P]-end labeled 64-nt hairpin DNA **8** by BLM A₅. Lane 1, radiolabeled **8** alone; lane 2, 10 μM Fe²⁺; lane 3, 5 μM BLM A₅; lane 4, 1 μM Fe(II)·BLM A₅; lane 5, 2.5 μM Fe(II)·BLM A₅; lane 6, 5 μM Fe(II)·BLM A₅; lane 7, G+A lane.

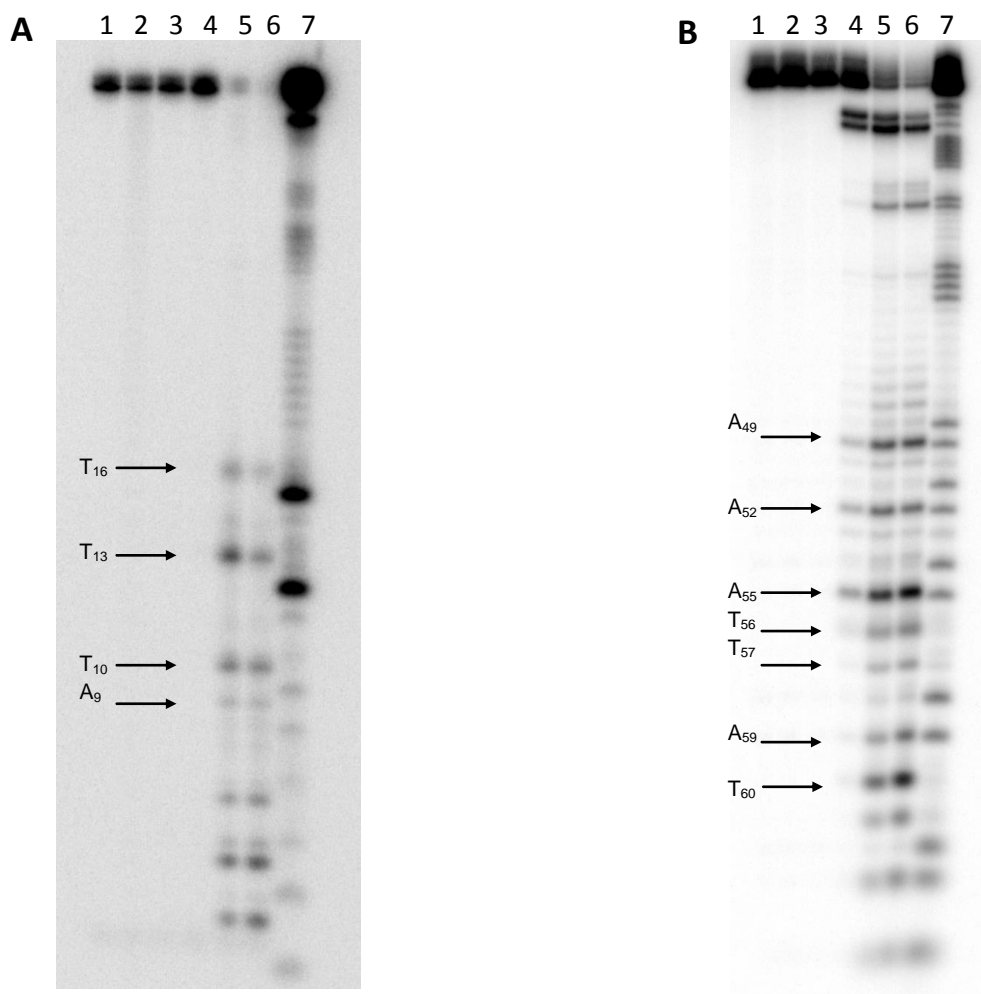
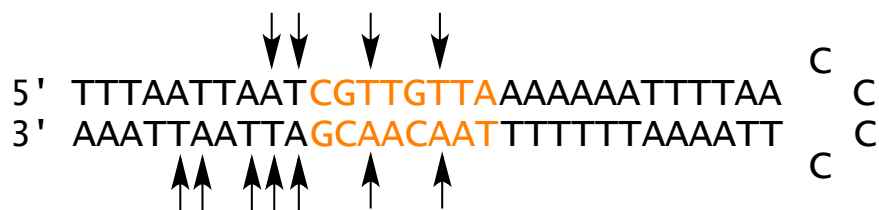


Figure S7. A) Sequence-selective cleavage of [5'-³²P]-end labeled 64-nt hairpin DNA **9** by BLM A₅. Lane 1, radiolabeled **9** alone; lane 2, 5 μM Fe²⁺; lane 3, 5 μM BLM A₅; lane 4, 1 μM Fe(II)•BLM A₅; lane 5, 2.5 μM Fe(II)•BLM A₅; lane 6, 5 μM Fe(II)•BLM A₅; lane 7, G lane. B) Sequence-selective cleavage of [3'-³²P]-end labeled 64-nt hairpin DNA **9** by BLM A₅. Lane 1, radiolabeled **9** alone; lane 2, 10 μM Fe²⁺; lane 3, 5 μM BLM A₅; lane 4, 1 μM Fe(II)•BLM A₅; lane 5, 2.5 μM Fe(II)•BLM A₅; lane 6, 5 μM Fe(II)•BLM A₅; lane 7, G+A lane.

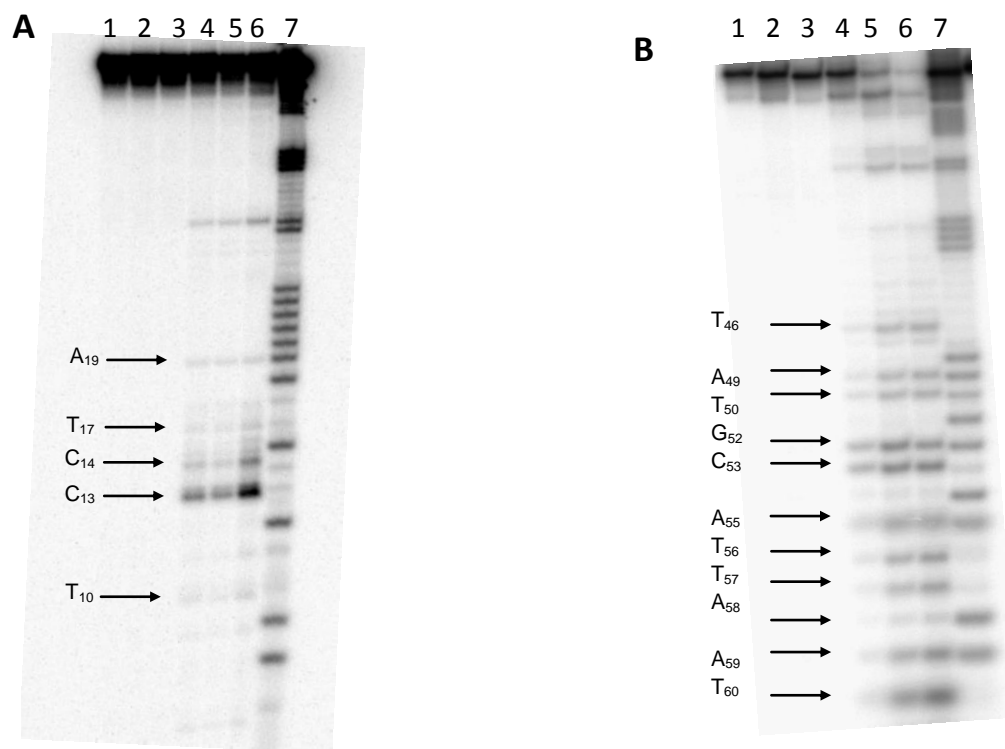
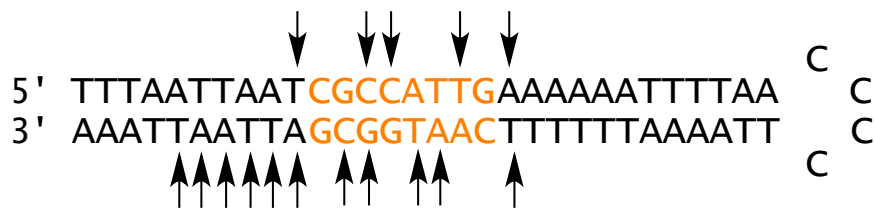


Figure S8. A) Sequence-selective cleavage of [5'-³²P]-end labeled 64-nt hairpin DNA **10** by BLM A₅. Lane 1, radiolabeled **10** alone; lane 2, 5 μM Fe²⁺; lane 3, 5 μM BLM A₅; lane 4, 1 μM Fe(II)•BLM A₅; lane 5, 2.5 μM Fe(II)•BLM A₅; lane 6, 5 μM Fe(II)•BLM A₅; lane 7, G lane. B) Sequence-selective cleavage of [3'-³²P]-end labeled 64-nt hairpin DNA **10** by BLM A₅. Lane 1, radiolabeled **10** alone; lane 2, 10 μM Fe²⁺; lane 3, 5 μM BLM A₅; lane 4, 1 μM Fe(II)•BLM A₅; lane 5, 2.5 μM Fe(II)•BLM A₅; lane 6, 5 μM Fe(II)•BLM A₅; lane 7, G+A lane.