

## **Binding of Ru(bpy)<sub>2</sub>(eilatin)<sup>2+</sup> to Matched and Mismatched DNA**

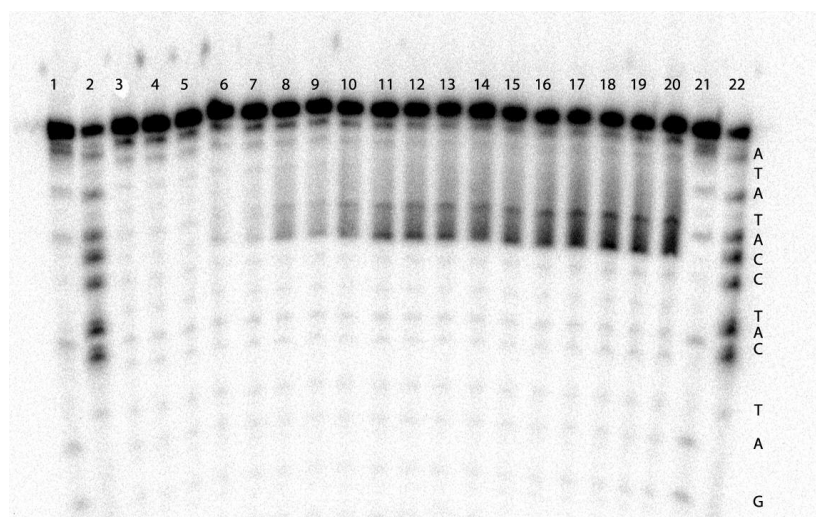
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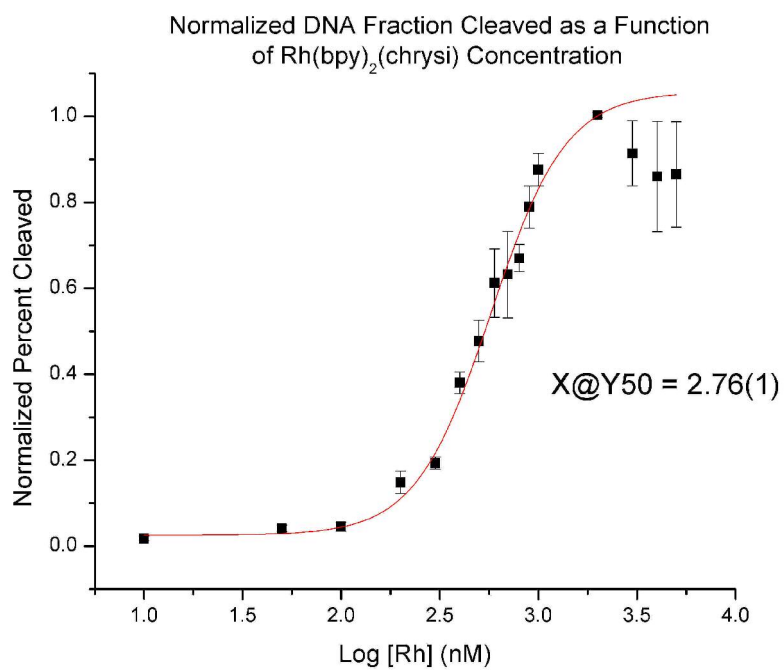
### **Supporting Information**

- S1.** Sample Rh(bpy)<sub>2</sub>(chrysi)<sup>3+</sup> Binding Constant Determination Gel
- S2.** Plot of Rh(bpy)<sub>2</sub>(chrysi)<sup>3+</sup> Cleavage Band Intensity as a Function of Rh(bpy)<sub>2</sub>(chrysi)<sup>3+</sup> for Binding Constant Determination
- S3.** Rh(bpy)<sub>2</sub>(chrysi)<sup>3+</sup>/Ru(bpy)<sub>3</sub><sup>2+</sup> Control Competition Experiment Gel

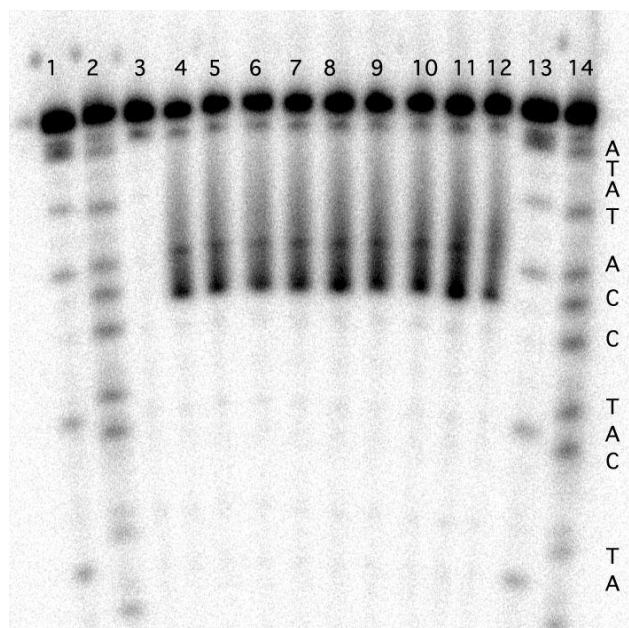


- 1: Mismatched DNA Maxam Gilberts (AG)
- 2: Mismatched DNA Maxam Gilberts (CT)
3. 1  $\mu\text{M}$  Mismatched DNA, light control, 5 min irradiation
4. 1  $\mu\text{M}$  Mismatched DNA, dark control
- 5: 1  $\mu\text{M}$  Mismatched DNA, 0  $\mu\text{M}$  Rh(bpy)<sub>2</sub>(chrysi), 5 min irradiation
- 6: 1  $\mu\text{M}$  Mismatched DNA, 0.05  $\mu\text{M}$  Rh(bpy)<sub>2</sub>(chrysi), 5 min irradiation
- 7: 1  $\mu\text{M}$  Mismatched DNA, 0.1  $\mu\text{M}$  Rh(bpy)<sub>2</sub>(chrysi), 5 min irradiation
- 8: 1  $\mu\text{M}$  Mismatched DNA, 0.2  $\mu\text{M}$  Rh(bpy)<sub>2</sub>(chrysi), 5 min irradiation
- 9: 1  $\mu\text{M}$  Mismatched DNA, 0.3  $\mu\text{M}$  Rh(bpy)<sub>2</sub>(chrysi), 5 min irradiation
- 10: 1  $\mu\text{M}$  Mismatched DNA, 0.4  $\mu\text{M}$  Rh(bpy)<sub>2</sub>(chrysi), 5 min irradiation
- 11: 1  $\mu\text{M}$  Mismatched DNA, 0.5  $\mu\text{M}$  Rh(bpy)<sub>2</sub>(chrysi), 5 min irradiation
- 12: 1  $\mu\text{M}$  Mismatched DNA, 0.6  $\mu\text{M}$  Rh(bpy)<sub>2</sub>(chrysi), 5 min irradiation
- 13: 1  $\mu\text{M}$  Mismatched DNA, 0.7  $\mu\text{M}$  Rh(bpy)<sub>2</sub>(chrysi), 5 min irradiation
- 14: 1  $\mu\text{M}$  Mismatched DNA, 0.8  $\mu\text{M}$  Rh(bpy)<sub>2</sub>(chrysi), 5 min irradiation
- 15: 1  $\mu\text{M}$  Mismatched DNA, 0.9  $\mu\text{M}$  Rh(bpy)<sub>2</sub>(chrysi), 5 min irradiation
- 16: 1  $\mu\text{M}$  Mismatched DNA, 1  $\mu\text{M}$  Rh(bpy)<sub>2</sub>(chrysi), 5 min irradiation
- 17: 1  $\mu\text{M}$  Mismatched DNA, 2  $\mu\text{M}$  Rh(bpy)<sub>2</sub>(chrysi), 5 min irradiation
- 18: 1  $\mu\text{M}$  Mismatched DNA, 3  $\mu\text{M}$  Rh(bpy)<sub>2</sub>(chrysi), 5 min irradiation
- 19: 1  $\mu\text{M}$  Mismatched DNA, 4  $\mu\text{M}$  Rh(bpy)<sub>2</sub>(chrysi), 5 min irradiation
- 20: 1  $\mu\text{M}$  Mismatched DNA, 5  $\mu\text{M}$  Rh(bpy)<sub>2</sub>(chrysi), 5 min irradiation
21. Mismatched DNA Maxam Gilberts (AG)
22. Mismatched DNA Maxam Gilberts (CT)

### S1. Sample Rh(bpy)<sub>2</sub>(chrysi)<sup>3+</sup> Binding Constant Determination Gel



**S2.** Plot of  $\text{Rh}(\text{bpy})_2(\text{chrysi})^{3+}$  Cleavage Band Intensity as a Function of  $\text{Rh}(\text{bpy})_2(\text{chrysi})^{3+}$  for Binding Constant Determination



- 1: Mismatched Maxam Gilberts (AG)
- 2: Mismatched Maxam Gilberts (CT)
- 3: 0.66  $\mu\text{M}$  Mismatched DNA, light control
- 4: 0.66  $\mu\text{M}$  Mismatched DNA, 0.66  $\mu\text{M}$   $\text{Rh}(\text{bpy})_2(\text{chrysi})^{3+}$ , 0  $\mu\text{M}$   $\text{Ru}(\text{bpy})_3^{2+}$ , 6 minute irr.
- 5: 0.66  $\mu\text{M}$  Mismatched DNA, 0.66  $\mu\text{M}$   $\text{Rh}(\text{bpy})_2(\text{chrysi})^{3+}$ , 0.1  $\mu\text{M}$   $\text{Ru}(\text{bpy})_3^{2+}$ , 6 minute irr.
- 6: 0.66  $\mu\text{M}$  Mismatched DNA, 0.66  $\mu\text{M}$   $\text{Rh}(\text{bpy})_2(\text{chrysi})^{3+}$ , 0.33  $\mu\text{M}$   $\text{Ru}(\text{bpy})_3^{2+}$ , 6 minute irr.
- 7: 0.66  $\mu\text{M}$  Mismatched DNA, 0.66  $\mu\text{M}$   $\text{Rh}(\text{bpy})_2(\text{chrysi})^{3+}$ , 1  $\mu\text{M}$   $\text{Ru}(\text{bpy})_3^{2+}$ , 6 minute irr.
- 8: 0.66  $\mu\text{M}$  Mismatched DNA, 0.66  $\mu\text{M}$   $\text{Rh}(\text{bpy})_2(\text{chrysi})^{3+}$ , 2  $\mu\text{M}$   $\text{Ru}(\text{bpy})_3^{2+}$ , 6 minute irr.
- 9: 0.66  $\mu\text{M}$  Mismatched DNA, 0.66  $\mu\text{M}$   $\text{Rh}(\text{bpy})_2(\text{chrysi})^{3+}$ , 3.3  $\mu\text{M}$   $\text{Ru}(\text{bpy})_3^{2+}$ , 6 minute irr.
- 10: 0.66  $\mu\text{M}$  Mismatched DNA, 0.66  $\mu\text{M}$   $\text{Rh}(\text{bpy})_2(\text{chrysi})^{3+}$ , 5  $\mu\text{M}$   $\text{Ru}(\text{bpy})_3^{2+}$ , 6 minute irr.
- 11: 0.66  $\mu\text{M}$  Mismatched DNA, 0.66  $\mu\text{M}$   $\text{Rh}(\text{bpy})_2(\text{chrysi})^{3+}$ , 15  $\mu\text{M}$   $\text{Ru}(\text{bpy})_3^{2+}$ , 6 minute irr.
- 12: 0.66  $\mu\text{M}$  Mismatched DNA, 0.66  $\mu\text{M}$   $\text{Rh}(\text{bpy})_2(\text{chrysi})^{3+}$ , 33  $\mu\text{M}$   $\text{Ru}(\text{bpy})_3^{2+}$ , 6 minute irr.
- 13: Mismatched Maxam Gilberts (AG)
- 14: Mismatched Maxam Gilberts (CT)

### S3. $\text{Rh}(\text{bpy})_2(\text{chrysi})^{3+}/\text{Ru}(\text{bpy})_3^{2+}$ Control Competition Experiment Gel