

# Synthesis and Evaluation of DNA Interactive Ligands



## Toni Brown

Research Associate and Laboratory Director for the Dean of Natural Sciences

Chemistry

[tbrown@hope.edu](mailto:tbrown@hope.edu)

B.Sc. University of Sunderland, England, UK, 1999.  
Ph.D. University of Bradford, England, UK, 2004.  
Postdoctoral Research Fellow, Furman University, Greenville, SC, 2004-2005.

Area of expertise: Synthetic medicinal chemistry, cancer research, biological and biophysical chemistry.

### Recent Publications and Presentations:

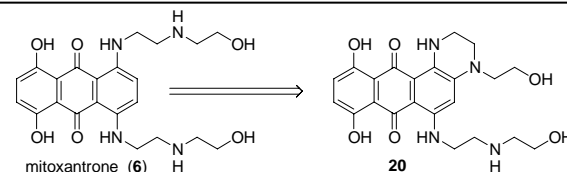
1. Brown, T; et al.; **2006**, *Bioorg. Med. Chem.*, in preparation.
2. Buchmueller, K.L.; et al.; **2006**, *Biochem*, in preparation.
3. Mackay, H, Brown, T; Lee, M; **2006**, Review, in preparation.
4. Brown, T; et al.; **2006**, Review, in preparation.
5. Sato, A; et al., Abstracts, 231st ACS, Atlanta, GA, United States, March 26-30, **2006**.
6. Dickson, J; et al., 231st ACS National Meeting, Atlanta, GA, United States, March 26-30, **2006**.
7. Brown, T; et al., 231st ACS National Meeting, Atlanta, GA, United States, March 26-30, **2006**.
8. Invited speakers: Lee, M; Brown, T; Mackay, H; **2005**, Hope College, Holland MI.
9. Holt, Jr., H.L.; LeBlanc, R.; Dickson, J.; Brown, T.; et al., *Het. Comm.*, **2005**, 11, (6), 465-470.
10. Dickson, J; et al., Abstracts, 57th /61st SERMACS, Memphis, TN, US, Nov 1-4 **2005**.
11. Turlington, M; et al., Abstracts, 57th /61st SERMACS, Memphis, TN, US, Nov 1-4, **2005**.
12. Sutterfield, A; et al., Abstracts, 57th /61st SERMACS, Memphis, TN, US, Nov 1-4, **2005**.
13. Bryant, A; et al., Abstracts, 57th /61st SERMACS, Memphis, TN, US, Nov 1-4, **2005**.
14. Pati H.N., et al., **2005**, *Med. Chem. Res.* 14, (1), 19-25.
15. LeBlanc, R.; Dickson, J.; Brown, T.; et al., *Bioorg. Med. Chem.* **2005**, 13, 6025-6034.
16. Brown, T. et al., 229th ACS National Meeting, San Diego, CA, March 13-17, **2005**.
17. Holt, Jr., H.L.; et al., 229th ACS National Meeting, San Diego, CA, March 13-17, **2005**.
18. LeBlanc, R.; et al., **2004**, 56th Southeast Regional meeting of the ACS, Raleigh, NC.

### Ph. D. Related Publications and Presentations:

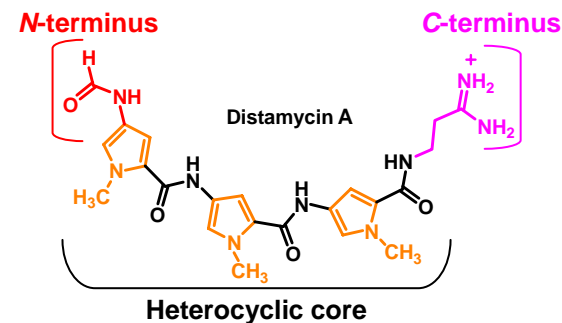
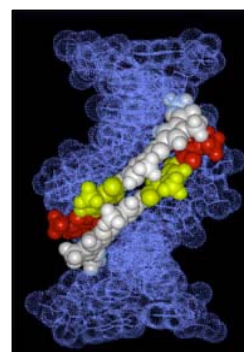
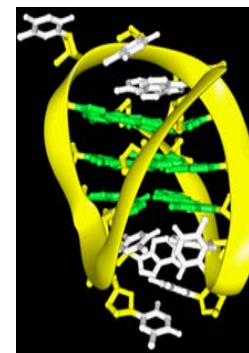
1. **Invited speaker:** 17<sup>th</sup> Sept **2003**, Y.C.R. annual scientific meeting, Univ. of Leeds, UK.
2. **Brown T. et al.**, *J. Pharm. Pharmacol.*, **2003**, sup. 38. BPC, Harrogate, UK.
3. **Brown T. et al.**, *Eur. J. Cancer*, **2003**, 38, 403, 7. BCRM meeting, Bournemouth, UK.
4. **Invited speaker:** 17<sup>th</sup> Feb **2003**, Tom Connors Cancer Research Centre, Univ. of Bradford, UK.
5. **Brown T., et al.**, *Eur. J. Cancer*, **2002**, 38; 403, 7. EORTC-NCI-AACR, Frankfurt, Germany.

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Antraquinones (e.g. **8**) were designed to target duplex DNA in anti-cancer therapy. Cyclised derivatives (e.g. **20**) should target tetraplex DNA and indirectly inhibit telomerase, an enzyme present in over 90% of tumors.



Polyamides (e.g. Distamycin A) recognize specific sequences of duplex DNA and bind in the minor groove as antiparallel stacked dimers. By altering the heterocyclic core, and the *N*- and *C*-termini of these molecules, we hope to design and synthesize more selective and specific DNA binders.

