

Figure S1. Representative example ^1H NMR spectrum used to determine purity (>95%) and diastereomeric ratio (8.3: 1). Integration of the trace impurities (none) in the ^1H NMR spectra indicated the total purity to be >95%. Diastereomeric ratios were determined by integration of at least two pairs of signals corresponding to the two diastereomers present in the sample (inset).

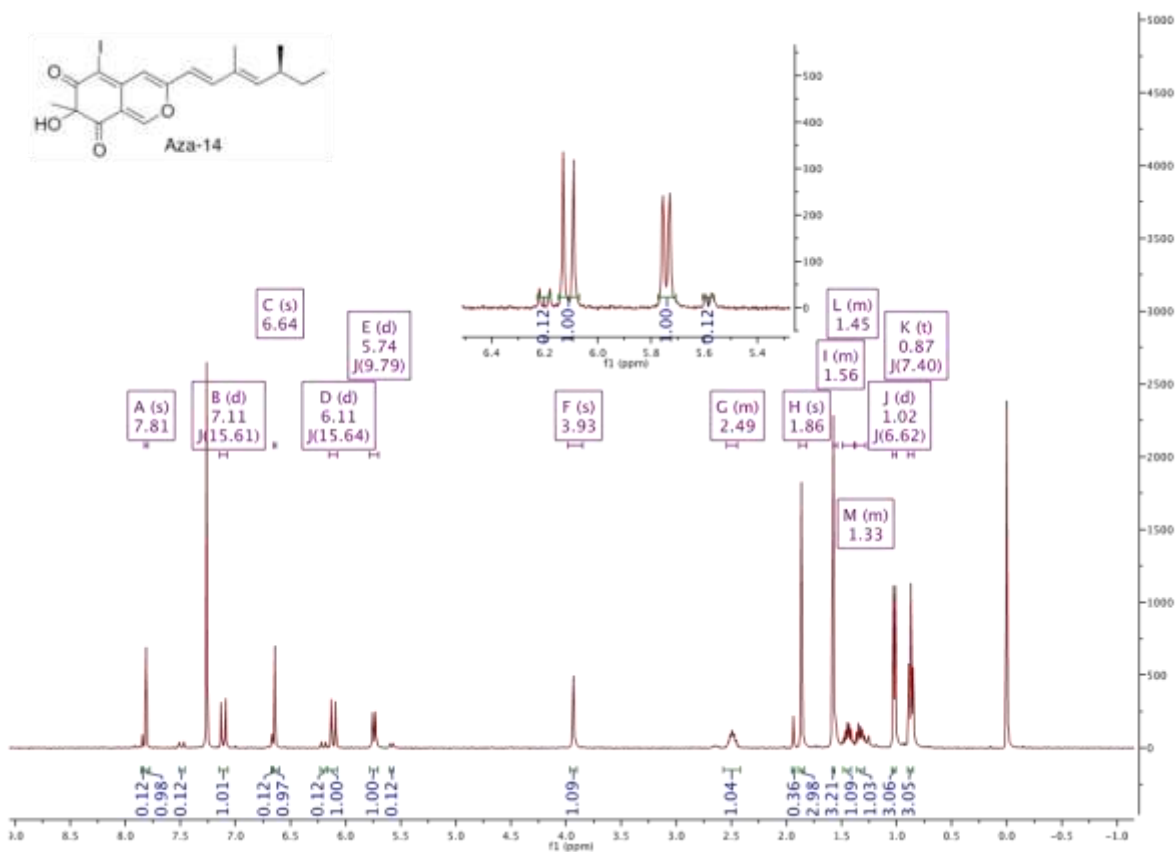


Figure S2. Pre-formed tau filaments binding to electron microscopy grids in the presence of azaphilone compounds. To test whether azaphilone compounds may block adherence of tau filaments to EM grids, preformed tau filaments were mixed with compounds aza-8, aza-9, aza-12, and aza-13 and immediately prepared for electron microscopy without allowing time for disassembly. As seen in the micrographs, similar amounts of filaments were observed with or without the added azaphilone compounds, indicating that the compounds do not block adherence of tau filaments to EM grids. The scale bar represents 1 μm and is applicable to all images.

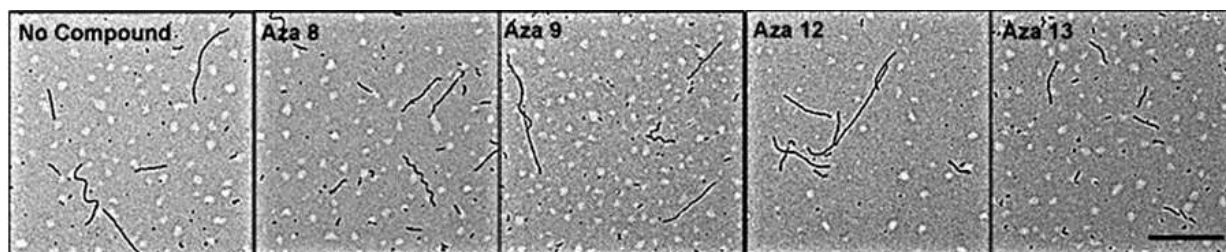


Table S1. Diastereomeric ratios of Aza-7-Aza-17.

Compounds Aza-7-Aza-17 were synthesized as previously reported.¹ Inspection of ¹H NMR spectra indicated they were >95% pure as based upon integration of signals resulting from trace impurities. The relative ratios of diastereomers were also determined from integration of the corresponding ¹H NMR signals.

Compound	Diastereomeric ratio
Aza-7	5.6 : 1
Aza-8	5.0 : 1
Aza-9	12.5 : 1
Aza-10	10 : 1
Aza-11	12.5 : 1
Aza-12	>20 : 1
Aza-13	1.9 : 1
Aza-14	8.3 : 1
Aza-15	4.2 : 1
Aza-16	3.1 : 1
Aza-17	5.0 : 1

Reference:

1) Somoza, A. D.; Lee, K. H.; Chiang, Y. M.; Oakley, B. R.; Wang, C. C. *Org. Lett.* **2012**, *14*, 972.