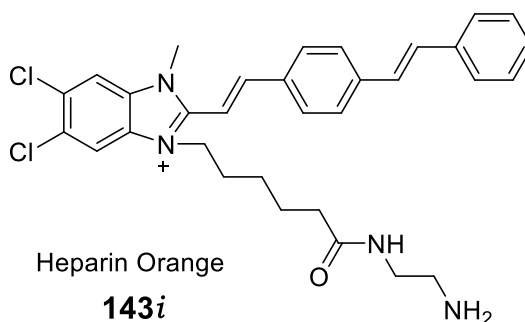


## 7. Corrections and additions:

### 7.1 Addition to the abbreviations on page number 6:

CPL	circularly polarized light
DAPI	4',6-diamidino-2-phenylindole
DDQ	2,3-Dichloro-5,6-dicyano-1,4-benzoquinone
DMAP	4- <i>N,N</i> -dimethylaminopyridine
HMDS	hexamethyldisilazane
HPLC	high pressure liquid chromatography
HRS	hyper Raleigh scattering
L-DBT	L-dibenzoyl tartarate
LMWH	low molecular weight heparin
MW	microwave
NLO	nonlinear optics
PI	propidium iodide
SHG	second harmonic generation
UFH	Unfractionated heparin

### 7.2 Correct structure of heparin orange on page number 37:



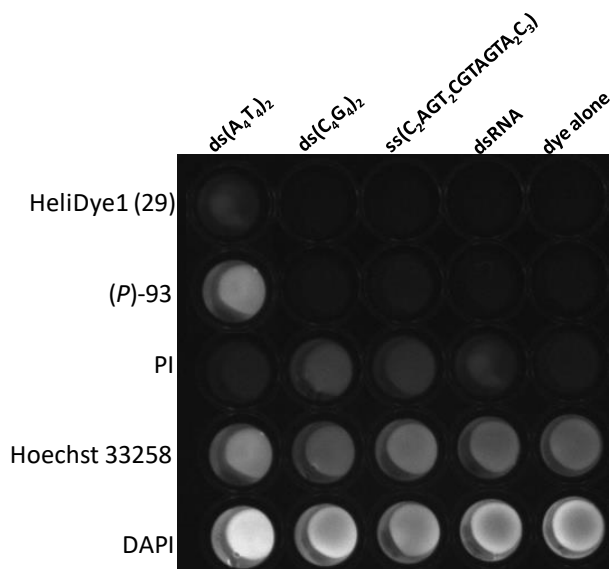
### 7.3 Comment about the experimental part of 500 compounds mentioned in conclusions:

I synthesized about 500 helquat derivatives, but due to the practical reason (to control the size of the thesis) the complete characterization of only those which were appeared in the results and discussion part or found to be active in specific property or application screening was given in consultation with my PhD supervisor Dr. Filip Těplý.

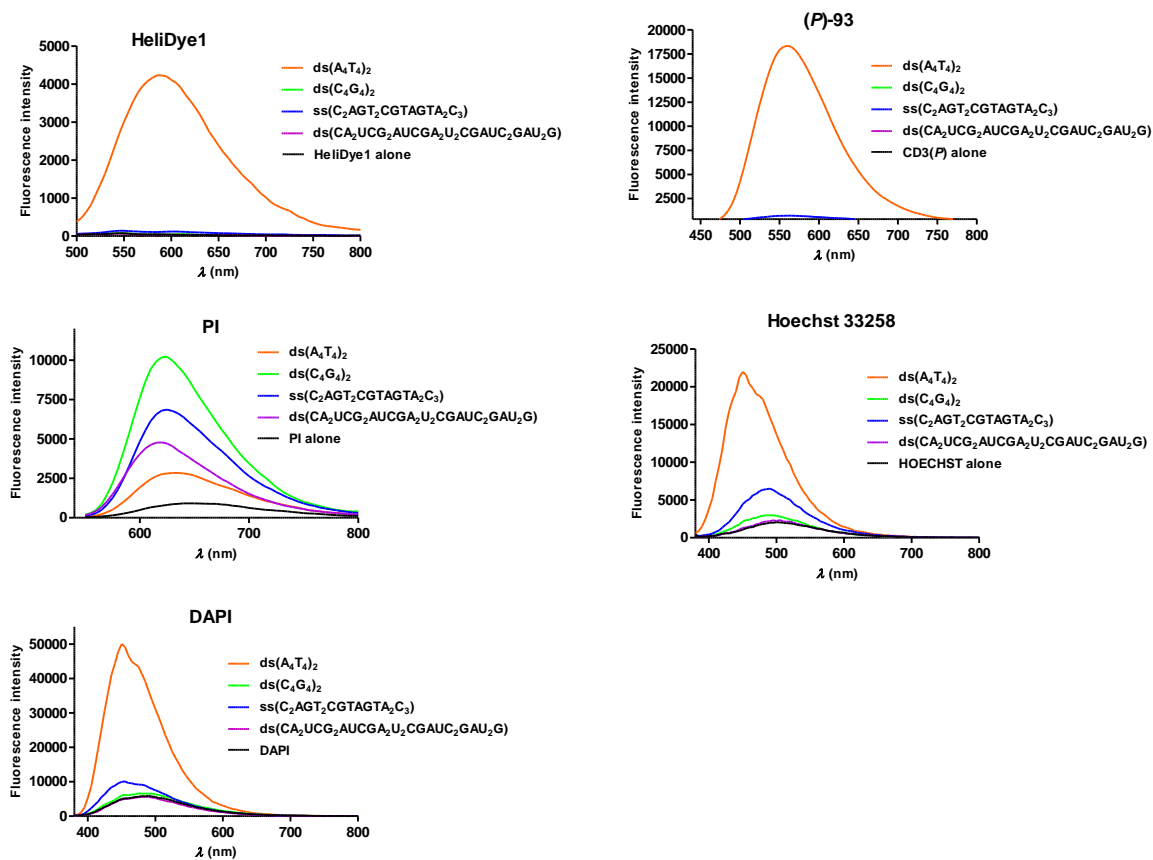
### 7.4 Replacement of Fig. 74A and 74B:

Following two figures will replace fig. **74A** and **74B** in the main text of the thesis on page number 81 and 82. HeliDye1 and (*P*)-93 were excited at 460 and 420 nm, respectively.

A)



B)



**Fig. 74:** A) Picture of the well plate showing comparison in fluorescence light-up of HeliDye and (P)-93 with established probes (irradiation at 365 nm UV light); B) Quantitative fluorescence spectra of HeliDye1 and all three established probes in presence and absence of analytes at dye:DNA ratio 2:1 ( $C_{dye} = 10 \mu M$  and  $C_{dsDNA} = 5 \mu M$ ).

Commercial probes PI, DAPI and Hoechst 33258 at 530 nm, 470 nm and 470 nm respectively. The instrument settings (gain and z-value) were adjusted according to DAPI fluorescence and respective emission spectra were recorded for each probe under identical settings.

DAPI is much more brighter than **HeliDye1** and **(P)-93** for its fluorescence light-up responses but worse with respect to selectivity for AT-rich DNA duplex as it show considerably strong fluorescence enhancement in presence of all other analytes. PI and Hoechst-33258 were completely nonselective with respect to their sequence specificity. Therefore as compared to all these commercial probes, **HeliDye1** and **(P)-93** outperforms over theses commercial probes due to its high sequence specificity.

### **7.5 Composition of Stoddart's magic mixture:**

The Stoddart's magic mixture was used to run the TLC analysis of dicationic molecules, which contains MeOH, 2 M aq. NH<sub>4</sub>Cl and MeNO<sub>2</sub> in 7:2:1 ratio.