## **Electronic Supplementary Information**

## Radiation damage to single stranded oligonucleotide trimers labelled with 5-iodopyrimidines

Kinga Westphal,<sup>a</sup> Konrad Skotnicki,<sup>b</sup> Krzysztof Bobrowski<sup>b</sup> and Janusz Rak\*<sup>a</sup>

<sup>a</sup>Faculty of Chemistry, University of Gdańsk, Wita Stwosza 63, 80-308 Gdańsk, Poland \* e-mail: janusz.rak@ug.edu.pl

<sup>b</sup>Centre of Radiation Research and Technology, Institute of Nuclear Chemistry and Technology, Dorodna 16, 03-195 Warsaw, Poland

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Scheme S1 Digestion of a TXT trimer by Micrococcal (MC) or P1 nuclease (P1).



**Fig. S1** HPLC analysis of aqueous solution containing TICT. +A Dionex UltiMate 3000 System with a Diode Array Detector, which was set at 260 nm for monitoring the effluents was employed for the separation. A Waters® XBridge<sup>TM</sup> OST C18 column (4.6 mm × 50 mm; 2.5  $\mu$ m in particle size) and a linear gradient of 0-20% B over 20 min was used (phase A: 50 mM TEAA + 1% ACN, phase B: 80 % ACN). The flow rate was set at 0.5 ml/min.



Fig. S2 HPLC analysis of aqueous solution containing TIUT. A Dionex UltiMate 3000 System with a Diode Array Detector, which was set at 260 nm for monitoring the effluents was employed for the separation. A Waters® XBridgeTM OST C18 column (4.6 mm  $\times$  50 mm; 2.5 µm in particle size) and a linear gradient of 0-20% B over 20 min was used (phase A: 50 mM TEAA + 1% ACN, phase B: 80 % ACN). The flow rate was set at 0.5 ml/min.



**Fig. S3** MS/MS (in the negative ionization mode) spectra of gamma irradiated aqueous solution of TICT (the diamonds indicate the mass of pseudomolecular anions).



**Fig. S4** MS/MS (in the negative ionization mode) spectra of gamma irradiated aqueous solution of TIUT (the diamonds indicate the mass of pseudomolecular anions).

Table S1 Molar absorption coefficients of iodinated compounds ( $\epsilon$ )\*

Compound	ε [liter/(mol•cm)]
T <sup>I</sup> CT	24000
T <sup>I</sup> UT	23000
dTI	8700

\*Absorption coefficient  $\varepsilon_{TXT}$  calculated using the http://biophysics.idtdna.com/UVSpectrum.html);

\*Absorption coefficient,  $\varepsilon_{\gamma}$ , taken from http://www.glenresearch.com/Technical/Extinctions.html;