Legends of supplementary Figure 1: A degraded batch of ^{3}H-360A that lacked G-quadruplex binding affinity did not exhibit a preferential localization at the ends of chromosomes in T98G and CEM 1301.

A : Dialysis profiles of "fresh" (undegraded) (black) and degraded (grey) ^{3}H-360A batches. The radioactivity signal collected in each dialysis chamber is indicated on the X-axis. Each sample number corresponds to a different nucleic acid structure (duplex, triplex, quadruplex or single-strand, described in Table 1). A value of 1 corresponds to the signal recorded in an empty chamber (without DNA), *i.e.* corresponding to the free ligand. Values in excess of 1 correspond to the radioactive ligand bound to DNA. Preferential accumulation to samples 14 and 15, corresponding to DNA quadruplexes, is lost for the degraded compounds. The data correspond to the averages of four values (two experiments in parallel, each counted twice).

B. Densities of silver grains on terminal (T) and interstitial (I) regions of chromosomes in autoradiographs of metaphase spreads from T98G and CEM1301 cultured for 24 hrs with or without a degraded batch of ^{3}H-360A. Silver grains were counted in 20 metaphases/groups with the degraded compounds and in 10 for controls. I values were normalized to areas of terminal regions by dividing the total numbers of grains on interstitial regions in each metaphase by the mean ratio of interstitial and terminal areas estimated with Metamorph software (2.93 and 3.03 for T98G and CEM 1301 respectively). Boxes include 50 % of the values centered on the median (the horizontal line through the box). The vertical lines begin at the 10th percentile and end at the 90th percentile. Note that the total numbers of silver grains found on chromosomes were highly greater for the cells treated with the degraded compounds compared to that found for the cells treated with the "fresh" compound (see Figures 3 and 4). This is correlated to a general greater diffusion in the cells and further unspecific bindings of the degraded radioactive compounds (data not shown).