Antiproliferative Activity of Methylated Analogues of *E*- and *Z*-Resveratrol

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Z. Naturforsch. **62c**, 189–195 (2007); received November 16/December 13, 2006

The stilbenoids *E*-resveratrol (*E*-3,5,4′-trihydroxystilbene, **1**), *E*-3,5,4′-trimethoxystilbene (**2**), *E*-3,4,4′-trimethoxystilbene (**3**) and *E*-3,4′-dimethoxy-5-hydroxystilbene (**4**) were converted by photoisomerization to their corresponding *Z*-isomers **5**–**8**. Compounds **1**–**8** were subjected to antiproliferative activity bioassays towards a set of four different human cancer cell lines, namely DU-145 (androgen not responsive human prostate tumor), LNCaP (androgen responsive human prostate tumor), M-14 (human melanoma) and KB (human mouth epidermoid carcinoma). The methylated analogues of **1** are more active than the natural lead in the majority of bioassays. The most active compound was *Z*-3,5,4′-trimethoxystilbene (**6**), which showed against DU-145 and LNCaP cells GI_{50} values close to those of the anticancer drug vinorelbine; **6** resulted more active than its *E*-isomer **2** towards DU-145, LNCaP and especially KB cell lines. A number of methylated *Z*-isomers displayed a higher activity than their *E*-isomers, but *E*-resveratrol (**1**) was more active than *Z*-resveratrol (**5**) towards all the tested cell lines.

Key words: Resveratrol Analogues, Antiproliferative Activity