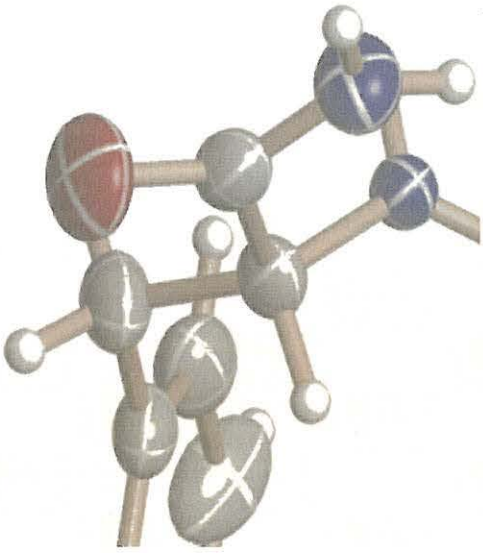

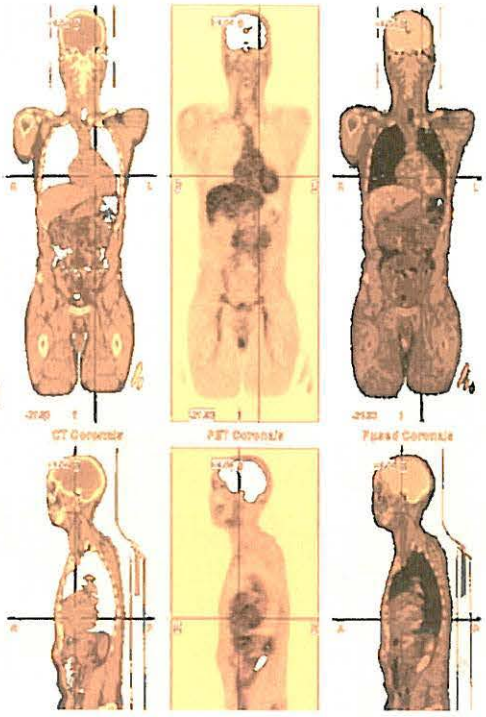

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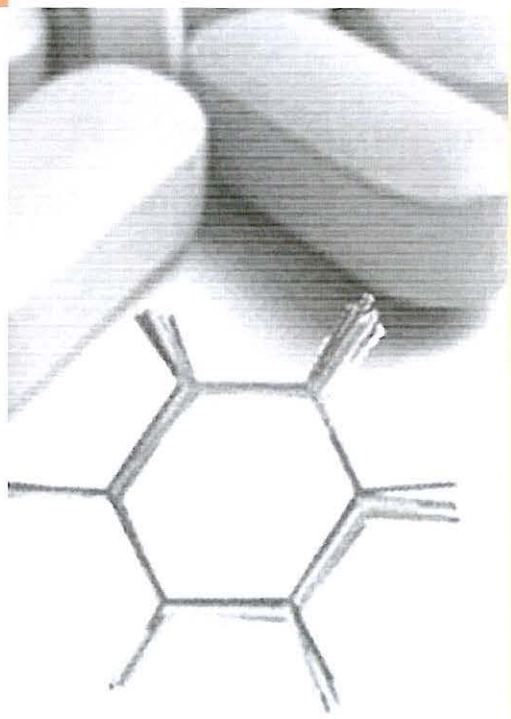

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Synthesis and evaluation of the antitumor potential of new aminated or methoxylated di(hetero)arylthioethers in the thieno[3,2-*b*]pyridine series

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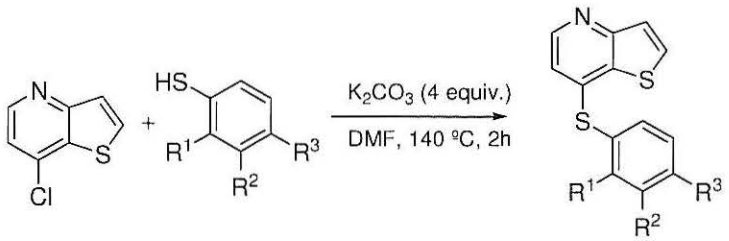
Several thienopyridines have already been described as inhibitors of cell proliferation using human tumor cells[1,2], highlighting the interest of studying their antitumorpotential. In this work, we present the synthesis of di(hetero)arylthioethers **1a-f**by S_NAr of the 7-chloro thieno[3,2-*b*]pyridine with amino or methoxy thiophenols in good to high yields, like presented in the scheme.



1a, R^1=NH_2, R^2=R^3=H, 80%
1b, R^2=NH_2, R^1=R^3=H, 90%
1c, R^3=NH_2, R^1=R^2=H, 90%
1d, R^1=OMe, R^2=R^3=H, 50%
1e, R^2=OMe, R^1=R^3=H, 50%
1f, R^3=OMe, R^1=R^2=H, 40%

The growth inhibitory activity of the di(hetero)arylthioethers **1a-f** was evaluated against five human tumour cell lines: breast (MCF-7), non-small cell lung (NCI-H460), colon (HCT15), hepatocellular (HepG2) and cervical (HeLa) carcinomas, using the sulforhodamine B assay. Furthermore, the hepatotoxicity of the compounds was studied using a porcine liver primary cell culture (PLP2). The most promising di(hetero)arylthioether wascompound**1c** (*p*-NH_2), presenting GI_{50} values between 1.46 and 6.46 μM for HepG2 and NCI-H460, respectively, and comparable with ellipticine (control).Compound **1f**(*p*-OMe) also revealed low GI_{50} values for HeLa (3.67 μM) and HCT15 (6.48 μM) cell lines. Furthermore, at the mentioned GI_{50} values, none of the compounds showed hepatotoxicity in PLP2. More studies are needed in order to find out the mechanisms of action.

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