ABSTRACT

3-(6-Methoxypyridin-3-yl)-5-(4-methylsulfonyl phenyl)-pyridin-2-amine (**MMP**) is a member of a novel class of orally active antimalarial drugs. This aminopyridine molecule has shown potent *in vitro* antiplasmodial activity and *in vivo* antimalarial activity in *Plasmodium berghei*-infected mice. The aqueous solubility of this molecule is, however, limited. Thus investigations aimed at improving the physicochemical properties, including solubility, of **MMP** were accordingly conducted. Five salts of **MMP** were formed with co-former molecules saccharin, salicylic acid, fumaric acid, oxalic acid and suberic acid, but a cocrystal was obtained when the co-former adipic acid was employed. All these new multi-component systems have been fully characterised using X-ray diffraction and thermal methods. Semi-quantitative, turbidimetric solubility tests in a phosphate-buffered saline solution at a pH of 7.4 were performed on the salts and the cocrystal of **MMP**. The saccharinate salt, fumarate salt and the cocrystal of **MMP** proved to have greater solubility than **MMP** itself. This work illustrates the importance of screening and modifying candidate drug compounds in their preliminary stages of development.