Anilinoquinoline based inhibitors of trypanosomatid proliferation

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We recently reported the medicinal chemistry re-optimization of a series of compounds derived from the human tyrosine kinase inhibitor, lapatinib, for activity against Plasmodium falciparum. From this same library of compounds, we now report potent compounds against Trypanosoma brucei brucei (which causes human African trypanosomiasis), T. cruzi (the pathogen that causes Chagas disease), and Leishmania spp. (which cause leishmaniasis). In addition, sub-micromolar compounds were identified that inhibit proliferation of the parasites that cause African animal trypanosomiasis, T. congolense and T. vivax. We have found that this set of compounds display acceptable physicochemical properties and represent progress towards identification of lead compounds to combat several neglected tropical diseases.
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