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(11) Patent Number: KE 931

(45) Date of grant: 25/07/2022

(12) PATENT

(51) Int.Cl.2016.01: A 61K 39/002, A 61P 33/02

(21) Application Number:
KE/P/2017/2665

(22) Filing Date:
22/05/2017

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(54) Title:

SYNTHESIS OF ANTIMALARIAL HYBRID COMPOSITION COMPRISING OF SARCOSSINE AND ANILINE PHARMACOPHORES AS SCAFFOLDS

(57) Abstract:

Synthesis of antimalarial hybrid composition comprising of sarcosine and aniline pharmacophores as scaffolds for management of plasmodial infections is disclosed. The said antiplasmodial hybrid drug further comprises sarcosine and aniline derivative. The said hybrid is synthesized by coupling sarcosine and 3-Chloro-4-(4-chlorophenoxy) aniline pharmacophores. These pharmacophores are selected based on in silica studies that show that these molecules can bind protein ligands of plasmodium parasites. The invention further provides a method of synthesizing hybrid drug comprising adding thionyl chloride to sarcosine in order to form acyl chloride, and adding the resultant mixture to aniline to form sarcosine-aniline hybrid molecule. The IC₅₀ of sarcosine-aniline hybrid is 44.80 ± 4.70 ng/ml compared to that of aniline derivative which is 22.86 ± 1.26 ng/ml. The IC₅₀ of control drugs were 2.63 ± 0.38 ng/ml, 5.69 ± 0.39 ng/ml for artesunate and chloroquine respectively. Cytotoxicity results revealed that sarcosine-aniline hybrid is safe and non-toxic.