A library of 80 compounds were tested *in vitro* on different life cycle stages of the parasite *Schistosoma mansoni*.

* ***In vitro* activity on schistosomula (larva stage of the parasite)**

Mechanically transformed schistosomula were automatically dispensed into a 384-well plate (120 parasite/well). The parasites were dosed with compounds and incubated in a humidified environment at 5% CO2 and 37°C for 72 h. Following incubation, com-pound-induced effects were assessed using an in-house facility, Roboworm, which quantifies both larva motility and phenotype. Preliminary compound screens were performed at a single-point concentration of 10 and 50 µM. Three independent screens were performed including two technical duplicates for each compound/concentration. Each screen contained the positive and negative controls (Auranofin - AUR at 10 μM final concentration in 0.625% DMSO, and 0.625% DMSO, respectively). The phenotype and motility scores were used to evaluate whether a compound displayed anti-schistosomula activity; here, -0.15 and -0.35 defined threshold anti-schistosomula values for phenotype and motility scores respectively. Secondary dose-response titrations were performed for all compounds identified as hits at 10 µM. At least two titrations were performed for each compound. The concentration range included 0.313, 0.625, 1.250, 2.500, 5 and 10 µM (with each concentration point in duplicate). Experimental data (i.e., phenotype and motility scores) were used to compute EC50 values using GraphPad Prism 7.02.

* ***In vitro* activity on adult worms**

Adult worms (1 worm pair/1 ml of adult worm media) were dosed with 10 µM of each compound (in 0.1% DMSO). Negative (0.1% DMSO) and positive control (praziquantel - 10 µM in 0.5% DMSO) treatments were included in each replicate (at least three independent experiments). Compound and parasite co-cultures were incubated for 72 h in a humidified environment at 5% CO2, 37°C. Parasite motility after compound treatment was assessed at three time points (24, 48 and 72 h) by a digital image processing-based system (WormassayGP). The final readout related to the 72 h time point is defined as worm movement inhibition (compared to the DMSO control).