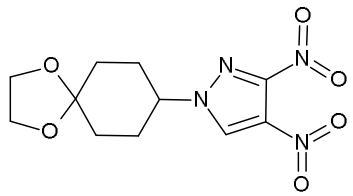
chloride and extracted with 20 mL of ethyl acetate. The organic layer was dried over magnesium sulfate, concentrated under reduced pressure, and purified on silica, eluting with 3% of methanol in dichloromethane to afford 50 mg of N-(1-((4-hydroxy-4-methylcyclohexyl)-3-isopropoxy-1H-pyrazol-4-yl)formamide (cis) = intermediate 55. MS (method B) m/z 282 [M+1]+; t=1.19 min. and 30 mg of N-(1-((4-hydroxy-4-methylcyclohexyl)-3-isopropoxy-1H-pyrazol-4-yl)formamide (trans) = intermediate 56. MS (method B) m/z 282 [M+1]+; t=1.1 min.

Intermediate 57 and 58: cis N-(3-cyclopropoxy-1-(hydroxy-4-methylcyclohexyl)-1H-pyrazol-4-yl)formamide and trans N-(3-cyclopropoxy-1-(hydroxy-4-methylcyclohexyl)-1H-pyrazol-4-yl)formamide

Step 1: Preparation of 3,4-dinitro-1-(1,4-dioxaspiro[4.5]decan-8-yl)-1H-pyrazole



10 g (1.5 eq.) of triphenylphosphine were added to a solution of 4 g (1 eq.) of 3,4-dinitro-1H-pyrazole and 4 g (1 eq.) of 1,4-dioxaspiro[4.5]decan-8-ol in 60 mL of tetrahydrofuran. The mixture was cooled to 0°C and 7.68 g (1.5 eq.) of diisopropyl azodicarboxylate (DIAD) were added. The mixture was stirred at room temperature for 72 hours then diluted with 200 mL of ethyl acetate and 100 mL of water. The organic layer was washed with water, with brine, dried over magnesium sulfate, concentrated under reduced pressure and purified on silica, eluting with 10% of ethyl acetate in dichloromethane to afford 1.6 g of 3,4-dinitro-1-(1,4-dioxaspiro[4.5]decan-8-yl)-1H-pyrazole. MS (method A) t=1.47 min – no mass

Step 2: Preparation of 3-cyclopropoxy-4-nitro-1-(1,4-dioxaspiro[4.5]decan-8-yl)-1H-pyrazole

