

Phthalazinone Inhibitors of

Inosine-5'-Monophosphate Dehydrogenase from *Cryptosporidium parvum*

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Supporting Information

Compounds **D6**, **D8**, **D14** were purchased from commercial sources.

(D1) N-(4-methoxyphenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO, 400 MHz) δ 10.22 (s, 1H), 8.30 (d, 1H, *J* = 7.6 Hz), 7.92-7.98 (m, 2H), 7.86 (t, *J* = 7.6 Hz, 1H), 7.48 (d, 2H, *J* = 9.2 Hz), 6.88 (d, 2H, *J* = 8.8 Hz), (4.06, s, 2H), 3.72 (s, 3H) 3.71 (s, 3H).

(D20) N-(3-methoxyphenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO, 400 MHz) δ 10.33 (s, 1H), 8.26 (d, 1H, *J* = 8.4 Hz), 7.88-7.92 (m, 2H), 7.26 (s, 1H), 7.17 (t, 1H, *J* = 8 Hz), 7.07 (d, 1H, *J* = 7.6 Hz), 6.64 (d, 1H, *J* = 8.4 Hz), 4.09 (s, 2H), 3.68 (s, 3H), 3.66 (s, 3H).

(D21) N-(2-methoxyphenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 10.36 (s, 1H), 8.31 (d, 1H, *J* = 7.6 Hz), 7.91-7.94 (m, 2H), 7.29 (s, 2H), 7.20 (t, 1H, *J* = 8 Hz), 7.10 (d, 1H, *J* = 8 Hz), 6.69 (d, 1H, *J* = 8 Hz), 4.09 (s, 2H), 3.71 (s, 3H), 3.69 (s, 3H).

(D22) N-(4-ethoxyphenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 10.22 (1H, s), 8.31 (d, 1H, *J* = 7.2 Hz), 7.92-7.98 (m, 2H), 7.85-7.89 (m, 1H), 7.48 (d, 2H, *J* = 8.8 Hz), 6.86 (d, 2H, *J* = 8.8 Hz), 4.06 (s, 2H), 3.97 (q, 2H, *J* = 7.2 Hz), 3.73 (s, 3H), 1.30 (t, 3H, *J* = 8 Hz).

(D23) N-(4-methoxybenzyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 8.65 (t, 1H, *J* = 5.6 Hz), 8.28 (d, 1H, *J* = 7.6 Hz), 7.84-7.89 (m, 3H), 7.17 (d, 2H, *J* = 8.8 Hz), 6.87 (d, 2H, *J* = 8.8 Hz), 4.21 (d, 2H, *J* = 5.6), 3.88 (s, 2H), 3.73 (s, 3H) 3.71 (s, 3H).

(D24) N-(4-chlorophenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 10.51 (s, 1H), 8.31 (d, 1H, *J* = 7.6 Hz), 7.92-7.96 (m, 2H), 7.85-7.89 (m, 1H), 7.62 (d, 2H, *J* = 8.8 Hz), 7.37 (d, 2H, *J* = 8 Hz), 4.11 (s, 2H), 3.73 (s, 3H).

(D27) N-(3,4-dichlorophenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ (10.68, s, 1H), 8.30 (d, 1H, *J* = 8 Hz), 7.92-7.96 (m, 3H), 7.85-7.89 (m, 1H) 7.58 (d, 1H, *J* = 8.4 Hz), 7.49 (d, 1H, *J* = 7.6 Hz), 4.12 (s, 2H), 3.72 (s, 3H).

(D28) 2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)-N-(1,3,4-thiadiazol-2-yl)acetamide. ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 9.16 (s, 1H), 8.21 (d, 1H, *J* = 8 Hz), 7.94 (d, 2H, *J* = 4 Hz), 7.89 (m, 1H), 4.27 (s, 2H), 3.71 (s, 3H).

(D29) N-(4-bromophenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 10.50 (s, 1H), 8.30 (d, 1H, *J* = 8 Hz), 7.86-7.95 (m, 3H) (7.56, d, 2H, *J* = 8.4 Hz), 7.49 (d, 2H, *J* = 8.4 Hz), 4.10 (s, 2H), 3.72 (s, 3H).

(D75 N-(4-cyanophenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO, 400 MHz) δ 10.91 (s, 1H), 8.31 (d, 1H, *J* = 8 Hz), 7.96 (d, 2H, *J* = 6 Hz), 7.93 (d, 1H, *J* = 8 Hz), 7.85-7.89 (m, 2H), 7.78 (s, 3H), 4.16 (s, 2H), 3.72 (s, 3H).

(D30) N-(4-fluorophenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 10.42 (s, 1H), 8.30 (d, 1H, *J* = 8 Hz), 7.93-7.97 (m, 2H), 7.86-7.88 (m, 2H), 7.58-7.61 (m, 2H), 7.12-7.17 (m, 2H), 4.09 (s, 2H), 3.72 (s, 3H).

(D31) N-(4-bromo-3-chlorophenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 10.67 (s, 1H), 8.30 (d, 1H, *J* = 7.6 Hz), 7.93-7.97 (m, 3H), 7.85-7.89 (m, 1H), 7.70 (d, 1H, *J* = 8.8 Hz), 7.41 (dd, *J*₁ = 8.8 Hz, *J*₂ = 2.4 Hz, 1H), 4.12 (s, 2H), 3.72 (s, 3H).

(D32) N-(2,4-dichlorophenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 10.04 (s, 1H), 8.30 (d, 1H, *J* = 8 Hz), 7.93-8.0 (m, 2H), 7.86-7.89 (m, 1H), 7.69-7.73 (m, 2H), 7.40-7.42 (m, 1H), 4.19 (s, 2H), 3.72 (s, 3H).

(D33) N-(4-bromo-2-fluorophenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 10.26 (s, 1H), 8.30 (d, 1H, *J* = 9 Hz), 7.95 (br, 2H), 7.83-7.89 (m, 2H), 7.63 (d, 1H, *J* = 10.8 Hz), 7.88 (d, 1H, *J* = 8 Hz), 4.19 (s, 2H), 3.72 (s, 3H).

(D34) N-(4-methylphenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 10.27 (s, 1H), 8.30 (d, 1H, *J* = 8 Hz), 7.91-7.97 (m, 2H), 7.84-7.88 (m, 1H), 7.46 (d, 2H, *J* = 8 Hz), 7.10 (d, 2H, *J* = 8 Hz), 4.06 (s, 2H), 3.72 (s, 3H), 2.24 (s, 3H).

(D35) N-(5-methyl-1,3,4-thiadiazol-2-yl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 8.30 (d, 1H, *J* = 8 Hz), 7.93 (s, 2H), 7.86 (br, 1H), 4.25 (s, 2H), 3.70 (s, 3H), 2.60 (s, 3H).

(D39) 2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)-N-(4-(trifluoromethyl)phenyl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 10.54 (s, 1H), 8.26 (d, 1H, *J* = 8 Hz), 7.87-7.92 (m, 2H), 7.80-7.84 (m, 1H), 7.65 (d, 2H, *J* = 8.8 Hz), 7.28 (d, 2H, *J* = 8.8 Hz), 4.07 (s, 2H), 3.65 (s, 3H).

(D40) 2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)-N-(4-(trifluoromethoxy)phenyl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 10.70 (s, 1H), 8.26 (d, 1H, *J* = 7.2 Hz), 7.87-

7.93 (m, 2H), 7.81-7.85 (m, 1H), 7.75 (d, 2H, $J = 8.8$ Hz), 7.64 (d, 2H, $J = 8.4$ Hz), 4.11 (s, 2H), 3.68 (s, 3H).

(D41) 2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)-N-(naphthalen-2-yl)acetamide. $^1\text{H-NMR}$ (DMSO d_6 , 400 MHz) δ 10.61 (s, 1H), 8.29-8.33 (m, 2H), 8.04 (d, 1H, $J = 8$ Hz), 7.94-7.98 (m, 1H), 7.84-7.90 (m, 3H), 7.39-7.48 (m, 2H), 7.61 (d, $J = 8.8$ Hz, 1H), 7.79 (d, $J = 8$ Hz, 1H), 4.19 (s, 2H), 3.75 (s, 3H).

(D42) N-(3,4,5-trichlorophenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: $^1\text{H-NMR}$ (DMSO- d_6 , 400 MHz) δ 10.96 (s, 1H), 8.27 (d, 1H, $J = 9$ Hz), 8.02 (s, 2H), 7.94, (br, 2H), 4.20 (s, 2H), (3.79, s, 3H).

(D43) N-(3,5-dichlorophenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: $^1\text{H-NMR}$ (DMSO- d_6 , 400 MHz) δ 10.79 (s, 1H), 8.37 (d, 1H, $J = 8$ Hz), 7.71 (s, 2H), 7.36 (s, 1H), 4.19 (s, 2H) 3.78 (s, 3H).

(D45) N-(4-bromo-3-(trifluoromethyl)phenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: $^1\text{H-NMR}$ (DMSO- d_6 , 400 MHz) δ 10.83 (s, 1H), (J), (8.19, d, 1H, $J = 3$ Hz), (J), (J), (7.84, d, 1H, $J = 8$ Hz), (7.75, d, 1H, $J = 12$ Hz), (4.15, s, 2H), (2.74, s, 3H).

(D46) N-(3,4,5-trifluorophenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: $^1\text{H-NMR}$ (DMSO- d_6 , 400 MHz) δ 10.71 (s, 1H), 8.26(d, 1H, $J = 7.6$ Hz), 7.89-7.90(m, 2H), 7.82-7.84 (m, 1H), 7.42-7.46 (m, 2H), 4.07 (s, 2H), 3.67 (s, 3H).

(D48) N-(4-chloro-3-(trifluoromethyl)phenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: $^1\text{H-NMR}$ (DMSO d_6 , 400 MHz) δ 10.84 (s, 1H), 8.30 (d, 1H, $J = 7.2$ Hz), 8.19 (s, 1H), 7.92-7.98 (m, 2H), 7.86-7.89(m,1H), 7.81-7.83 (m, 1H), 7.68 (d, $J = 8.8$ Hz, 1H), 4.14 (s, 2H), 3.72 (s, 3H).

(D49) N-(3-chloro-4-cyanophenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: $^1\text{H-NMR}$ (DMSO d_6 , 400 MHz) δ 10.80 (s, 1H), 8.26 (d, 1H, $J = 8$ Hz), 8.14 (s, 1H), 7.87-7.93 (m, 2H) J 7.81-7.84 (m, 1H), 7.77 (d, 1H, $J = 8$ Hz), 7.63 (d, 1H, $J = 8.8$ Hz), 4.09 (s, 2H), (3.67, s, 3H).

(D50) N-(4-cyano-3-(trifluoromethyl)phenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: $^1\text{H-NMR}$ (DMSO d_6 , 400 MHz) δ 11.17 (s, 1H), 8.29-8.32 (m, 1H), 8.27 (s, 1H), 8.10-8.13(m,1H), 7.94-7.97 (m, 3H), 7.88-7.91(m,1H) 4.20 (s, 2H), (3.72, s, 3H).

(D60) N-(4-fluoro-3-(trifluoromethyl)phenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. $^1\text{H-NMR}$ (DMSO d_6 , 400 MHz) δ 10.74 (s, 1H), 8.30 (d, 1H, $J = 8$ Hz), 8.08-8.10 (m, 1H), 7.91-7.97 (m, 2H), 7.85-7.89 (m, 1H) 7.80-7.83 (m, 1H), 7.46-7.51(m, 1H), 4.13 (s, 2H), 3.72 (s, 3H).

(D51) N-(3-(trifluoromethyl)phenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: $^1\text{H-NMR}$ (DMSO d_6 , 400 MHz) δ 10.72 (s, 1H), 8.31 (d, 1H, $J = 8$ Hz), 8.09, (s, 1H), 7.92-7.98 (m, 2H), J 7.85-7.89 (m, 1H), 7.77(dd, $J_1 = 4$ Hz, $J_2 = 0.8$ Hz, 1H), 7.54-7.58 (m, 1H), 7.42 (d, 1H, $J = 8$ Hz), 4.14, (s, 2H), 3.72 (s, 3H).

(D52) N-(4-chloro-3-fluorophenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO *d*₆, 400 MHz) δ 10.70 (s, 1H), 8.30 (d, 1H, *J* = 8 Hz), 7.93-7.94 (m, 2H), 7.85-7.88 (m, 1H), 7.73-7.76 (m, 1H), 7.50-7.54 (m, 1H), 7.34 (d, 1H, *J* = 10 Hz), 4.12 (s, 2H), 3.71 (s, 3H).

(D53) N-(4-methoxy-3-(trifluoromethyl)phenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO, 400 MHz) δ 10.57 (s, 1H), 8.34 (d, 1H, *J* = 8 Hz), 8.00 (q, 3H, *J* = Hz), 7.91 (t, 1H, *J* =), (7.81, d, 1H, *J* = 10 Hz), (7.28, d, 1H, *J* = 10 Hz), (4.14, s, 2H), (3.89, s, 3H), (3.77, s, 3H).

(D54) N-(4-amino-3-(trifluoromethyl)phenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO *d*₆, 400 MHz) δ 10.20 (s, 1H), 8.29 (d, 1H, *J* = 8 Hz), 7.90-7.96 (m, 2H), 7.83-7.87 (m, 1H), 7.69 (d, *J* = 1.2 Hz, 1H), *J* 7.36-7.39 (m, 1H), 6.78 (d, 1H, *J* = 9 Hz), 5.40 (s, 2H), 4.09 (s, 2H), 3.71 (s, 3H).

(D56) N-(4-bromo-2-(trifluoromethyl)phenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO *d*₆, 400 MHz): 10.06 (s, 1H), 8.30 (d, 1H, *J* = 9 Hz), 7.91-7.95 (m, 2H), 7.85-7.89 (m, 1H), 7.82 (s, 1H), 7.77 (d, 1H, *J* = 10 Hz), 7.56 (d, 1H, *J* = 8 Hz), (4.12, s, 2H), (3.72, s, 3H).

(D58) N-(4-chloro-3-(trifluoromethyl)phenyl)-2-(4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO, 400 MHz): 10.91 (s, 1H), 8.27 (d, *J* = 8 Hz, 1H), 8.19 (s, 1H), 7.94 (d, 2H, *J* = 8 Hz), 7.86 (q, 1H, *J* = 6-8 Hz), 7.82 (d, 1H, *J* = 4 Hz), 7.67 (d, 1H, *J* = 8 Hz), 4.10 (s, 2H), 3.32 (s, 3H).

(D59) N-(4-bromo-3-(trifluoromethyl)phenyl)-2-(4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO *d*₆, 400 MHz) δ 10.79 (s, 2H), 8.25 (dd, *J*₁ = 7.6 Hz, *J*₂ = 0.8 Hz, 1H) (8.16, s, 1H), (7.93, br, 2H), 7.79-7.85 (m, 2H), (7.72, d, 1H, *J* = 8 Hz), 4.08, s, 2H).

(D68) N-(4-chloro-3-methylphenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO *d*₆, 400 MHz) δ 10.45 (s, 1H), 8.29-8.32 (m, 1H), *J* 7.93-7.95 (m, 2H), 7.87-7.89 (m, 1H), 7.59 (s, 1H), 7.42-7.43 (m, 1H), *J* 7.32-7.34 (m, 1H), 4.10 (s, 2H), 3.73 (s, 3H), 2.26 (s, 3H).

(D69) N-(4-chloro-3-methoxyphenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO *d*₆, 400 MHz) δ 10.51 (s, 1H), 8.28 (d, 1H, *J* = 8.4 Hz), 7.90-7.95 (m, 2H), 7.83-7.87 (m, 1H), 7.49-7.52 (m, 1H), 7.31 (d, 1H, *J* = 8.4 Hz), 7.09 (dd, 1H, *J*₁ = 9.6 Hz, *J*₂ = 2 Hz), 4.09 (s, 2H), 3.78 (s, 3H), 3.70 (s, 3H).

(D61) N-(benzofuran-5-yl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO *d*₆, 400 MHz) δ 10.39 (s, 1H), 8.30 (d, 1H, *J* = 9 Hz), 7.84-7.99 (m, 5H), 7.53 (d, 1H, *J* = 10 Hz), 7.41 (dd, *J*₁ = 8.8 Hz, *J*₂ = 2 Hz, 1H), 6.91 (d, 1H, *J* = 1.2 Hz), 4.11 (s, 2H), 3.72 (s, 3H).

(D62) N-(2-methylbenzofuran-5-yl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO *d*₆, 400 MHz) δ 10.23 (s, 1H), 8.30 (d, 1H, *J* = 8 Hz), 7.92-8.00 (m, 2H), 7.82-7.88 (m, 2H), 7.41 (d, 1H, *J* = 10 Hz), 7.31 (d, 1H, *J* = 10 Hz), 6.52 (s, 1H), 4.09 (s, 2H), 3.72 (s, 3H), 2.40 (s, 3H).

(D64) N-(benzo[d]oxazol-5-yl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO *d*₆, 400 MHz) δ 10.69 (s, 1H), 8.68 (s, 1H), 8.29-8.31 (m, 1H), 8.19 (bs, 1H), 7.92-7.90 (m, 2H), 7.85-7.89 (m, 1H), 7.74 (d, 1H, *J* = 9 Hz), 7.43 (dd 1H, *J*₁ = 8 Hz, *J*₂ = 1.6 Hz, 1H), 4.15 (s, 2H), 3.73 (s, 3H).

(D67) N-(6,7,8,9-tetrahydrodibenzo[b,d]furan-5-yl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO *d*₆, 400 MHz) δ 10.21 (s, 1H), 8.26 (d, 1H, *J* = 8 Hz), 7.88-7.96 (m, 2H), 7.88-7.96 (m, 2H), 7.80-7.84 (m, 1H), (7.76, d, *J* = 2 Hz, 1H), (7.35, d, 1H, *J* = 9 Hz), *J* 7.24 (dd, *J*₁ = 7 Hz, *J*₂ = 2 Hz, 1H) 4.06 (s, 2H), 3.68 (s, 3H), 2.63 (br, 2H), 1.70-1.81 (m, 6H).

(D70) N-(9H-carbazol-3-yl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO *d*₆, 400 MHz) δ 11.19 (s, 1H), 10.36 (s, 1H), (8.38, s, 1H), 8.31 (d, 1H, *J* = 8 Hz), 7.86-8.05 (m, 4H), 7.33-7.50 (m, 4H), 7.09-7.13 (m, 1H), 4.13 (s, 2H), 3.75 (s, 3H).

(D71) N-(9-ethyl-9H-carbazol-3-yl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO *d*₆, 400 MHz) δ 10.39 (s, 1H) 8.41 (s, 1H), 8.31 (d, 1H, *J* = 8 Hz), 8.01-8.05 (m, 2H), 7.94-7.97 (m, 1H), 7.85-7.89 (m, 1H), 7.56-7.58 (m, 3H), 7.41-7.45 (m, 1H), 7.13-7.17 (m, 1H), 4.40 (q, 2H, *J* = 6.8 Hz), 4.14 (s, 2H), 3.74 (s, 3H), 1.29 t, 3H, *J* = 6.8 Hz).

(D72) N-(dibenzo[b,d]furan-3-yl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO *d*₆, 400 MHz) δ (10.57, s, 1H), *J* 8.32 (d, 1H, *J* = 9 Hz), 7.93-8.08 (m, 5H), 7.86-7.90 (m, 1H), (7.66, d, 1H, *J* = 9 Hz), 7.44-7.50 (m, 2H), 7.35-7.39 (m, 1H), (4.17, s, 2H), (3.74, s, 3H).

(D73) N-(dibenzo[b,d]furan-2-yl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO *d*₆, 400 MHz) δ 10.70 (s, 1H), 8.45 (d, *J* = 1.6 Hz, 1H), 8.32 (d, 1H, *J* = 8 Hz), 8.13 (s, 1H), 7.95-8.09 (m, 4H), 7.87-7.91 (m, 1H), 7.67-7.71 (m, 2H), 7.59-7.62 (m, 1H), 7.47-7.55 (m, 2H), 7.37-7.41 (m, 1H), 4.18 (s, 2H), (3.74, s, 3H).

(D74) N-(4-bromo-3-methylphenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO *d*₆, 400 MHz) δ 10.44 (s, 1H), 8.30 (d, 1H, *J* = 10 Hz), 7.92-7.97 (m, 2H), 7.85-7.89 (m, 1H), 7.50 (d, *J* = 8.8 Hz, 1H), 7.36 (dd, *J*₁ = 9 Hz, *J*₂ = 2 Hz, 1H) 4.10 (s, 2H), 3.73, (s, 3H), 2.26, (s, 3H).

(D76) N-(4-cyano-3-methylphenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide. ¹H-NMR (DMSO *d*₆, 400 MHz) δ 10.74 (s, 1H), 8.30 (d, 1H, *J* = 8 Hz), 7.87-7.94 (m, 3H), 7.70 (d, 2H, *J* = 8.8 Hz), 7.58 (d, 1H, *J* = 8.4 Hz), 4.15 (s, 2H), 3.71 (s, 3H), 2.42 (s, 3H).

(D78) 2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)-N-(1,2,4-trimethyl-1,2,3,4-tetrahydrobenzofuro[3,2-*c*]pyridin-8-yl)acetamide. ¹H-NMR (DMSO *d*₆, 400 MHz) δ 10.46 (s, 1H), 8.36 (d, 1H, *J* = 9 Hz), 8.06 (d, 1H, *J* = 8 Hz), 8.0 (t, 2H, *J* = 8 Hz), 7.93 (t, 1H, *J* = 6.8 Hz), 7.51 (d, 1H, *J* = 8 Hz), 7.39 (d, 1H, *J* = 8 Hz), 4.17 (s, 2H), 3.79 (s, 3H), 3.40 (s, 2H) *J* = 8-12 Hz), 3.14 (s, 2H), 2.56 (s, 3H), 2.46 (s, 3H), 2.31 (s, 1H), 1.40 (s, 3H), 1.28 (s, 1H), 1.24 (d, 3H, *J* = 9 Hz).

(D84) N-(4-chloro-3-(trifluoromethyl)phenyl)-2-(3,5-dimethyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 10.78 (s, 1H), 8.17 (d, 1H, *J* = 1.6 Hz), 7.75-7.77 (m, 2H), 7.67 (d, *J* = 8.8 Hz, 1H), 7.62 (d, 1H, *J* = 6.8 Hz), 4.08 (s, 2H), 3.66 (s, 3H), 2.86 (s, 3H).

(D85) N-(4-chloro-3-methoxyphenyl)-2-(3,5-dimethyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 10.54 (s, 1H), 7.79-7.83 (m, 2H), 7.68 (d, *J* = 8.4 Hz, 1H), 7.59 (s, 1H), 7.39 (d, *J* = 8.4 Hz, 1H), 7.18 (d, 1H, *J* = 9.2 Hz), 4.12 (s, 2H), 3.84 (s, 3H), 3.73 (s, 3H), 2.92 (s, 3H).

(D87) N-(dibenzo[b,d]furan-2-yl)-2-(5-hydroxy-3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 12.71 (s, 1H), 10.58 (s, 1H), 8.48 (s, 1H), 8.12 (d, *J* = 7.6 Hz, 1H), 7.18 (t, *J* = 8.0 Hz, 1H), 7.75 – 7.71 (m, 2H), 7.64 (d, *J* = 8.8 Hz, 1H), 7.59 – 7.56 (m, 1H), 7.52-7.42 (m, 2H), 7.27 (d, *J* = 8 Hz, 1H), 4.17 (s, 2H), 3.81 (s, 3H).

(D89) N-(dibenzo[b,d]furan-2-yl)-2-(3,5-dimethyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 10.57 (s, 1H), 8.48 (d, *J* = 2 Hz, 1H), 7.87-7.85 (m, 2H), 7.75-7.65 (m, 4H), 7.44 (t, *J* = 8 Hz, 1H), 4.16 (2H, s), 3.75 (s, 3H), 2.93 (s, 3H).

(D90) N-(dibenzo[b,d]furan-2-yl)-2-(3,5-dimethyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 10.89 (s, 1H), 8.37 (d, *J* = 7.6 Hz, 1H), 8.04-8.0 (m, 3H), 7.96-7.92 (m, 3H), 7.86 -7.84 (m, 2H), 7.76 (d, *J* = 10 Hz, 1H), 4.23 (s, 2H), 3.79 (s, 3H), 2.15 (s, 3H).

(D91) N-(3-chlorophenyl)-2-(3-methyl-4-oxo-3,4-dihydrophthalazin-1-yl)acetamide: ¹H-NMR (DMSO-*d*₆, 400 MHz) δ 10.55 (s, 1H), 8.30 (d, *J* = 7.6 Hz, 1H), 7.97-7.94 (m, 2H), 7.89-7.79 (m, 1H), 7.79 (d, *J* = 8.4 Hz, 1H), 7.12 (d, *J* = 8.1 Hz, 1H), 7.34 (t, *J* = 8.4 Hz, 1H), 7.12 (d, *J* = 8.1 Hz, 1H), 4.11 (s, 2H), 3.72 (s, 3H).