Supplementary Information

Discovery of Strong 3-Nitro-2-Phenyl-*2H*-Chromene Analogues as Antitrypanosomal Agents and Inhibitors of *Trypanosoma cruzi* Glucokinase

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a. Systematic Names of Compounds 1 – 13.

Table S1. The systematic names for 3-nitro-2-phenyl-*2H*-chromene analogues **1 – 13**.

Compound	Systematic Name[a]
1	6-Bromo-2-(4-ethoxy-3-methoxyphenyl)-3-nitro-*2H*-chromene
2	6-Bromo-2-(3,4-diethoxyphenyl)-3-nitro-*2H*-chromene
3	6-Bromo-2-(3,4-dimethoxyphenyl)-8-methoxy-3-nitro-*2H*-chromene
4	6-Bromo-2-(3,4-dimethoxyphenyl)-3-nitro-*2H*-chromene
5	6,8-Dibromo-2-(3,4-dimethoxyphenyl)-3-nitro-*2H*-chromene
6	6,8-Dibromo-2-(4-ethoxy-3-methoxyphenyl)-3-nitro-*2H*-chromene
7	2-(2,6-Dichlorophenyl)-6,8-dibromo-3-nitro-*2H*-chromene
8	6-Bromo-2-(4-ethoxy-3-methoxyphenyl)-8-methoxy-3-nitro-*2H*-chromene
9	6,8-Dichloro-2-(3,4-diethoxyphenyl)-3-nitro-*2H*-chromene
10	2-(3,4-Diethoxyphenyl)-3-nitro-*2H*-chromene
11	6-Bromo-2-(2-chlorophenyl)-3-nitro-*2H*-chromene
12	2-(2-Chlorophenyl)-3-nitro-*2H*-chromene
13	2-(2,6-Dichlorophenyl)-3-nitro-*2H*-chromene

[a] Systematic names were generated through *ChemDraw Ultra 12.0* using a sketch of the compound.

b. SMILES Codes for Compounds 1 – 13.

Table S2. SMILES codes for the 3-nitro-2-phenyl-*2H*-chromene analogues (**1 – 13**).

Compound	SMILES Code[a-c]
1	BrC=1C=C2C=C(C(OC2=CC1)C1=CC(=C(C=C1)OCC)OC)[N+](=O)[O-]
2	BrC=1C=C2C=C(C(OC2=CC1)C1=CC(=C(C=C1)OCC)OCC)[N+](=O)[O-]
3	BrC=1C=C2C=C(C(OC2=C(C1)OC)C1=CC(=C(C=C1)OC)OC)[N+](=O)[O-]
4	BrC=1C=C2C=C(C(OC2=CC1)C1=CC(=C(C=C1)OC)OC)[N+](=O)[O-]
5	BrC=1C=C2C=C(C(OC2=C(C1)Br)C1=CC(=C(C=C1)OC)OC)[N+](=O)[O-]
6	BrC=1C=C2C=C(C(OC2=C(C1)Br)C1=CC(=C(C=C1)OCC)OC)[N+](=O)[O-]
7	ClC1=C(C(=CC=C1)Cl)C1OC2=C(C=C(C=C2C=C1[N+](=O)[O-])Br)Br
8	BrC=1C=C2C=C(C(OC2=C(C1)OC)C1=CC(=C(C=C1)OCC)OC)[N+](=O)[O-]
9	ClC=1C=C2C=C(C(OC2=C(C1)Cl)C1=CC(=C(C=C1)OCC)OCC)[N+](=O)[O-]
10	C(C)OC=1C=C(C=CC1OCC)C1OC2=CC=CC=C2C=C1[N+](=O)[O-]
11	BrC=1C=C2C=C(C(OC2=CC1)C1=C(C=CC=C1)Cl)[N+](=O)[O-]
12	ClC1=C(C=CC=C1)C1OC2=CC=CC=C2C=C1[N+](=O)[O-]
13	ClC1=C(C(=CC=C1)Cl)C1OC2=CC=CC=C2C=C1[N+](=O)[O-]

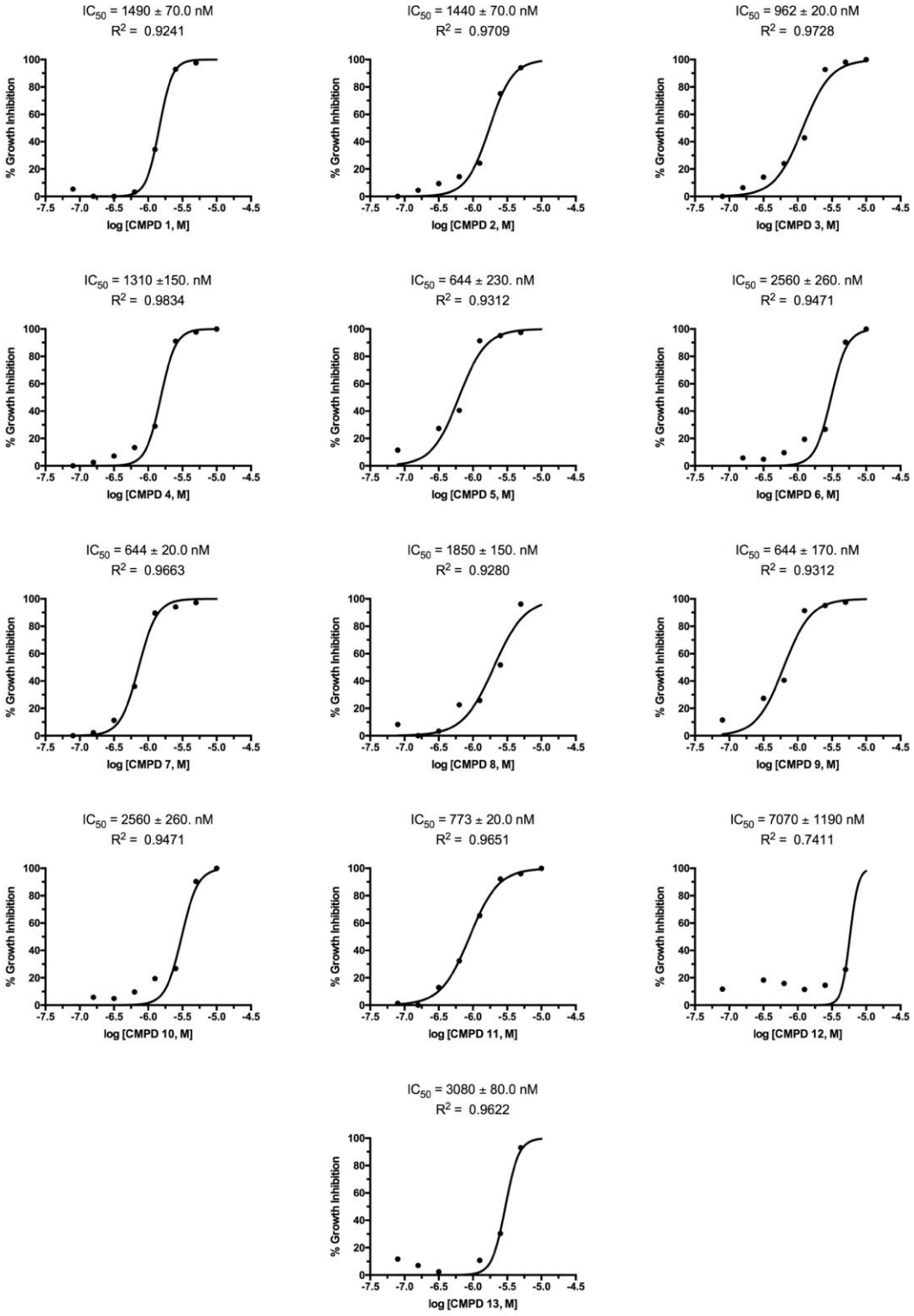
[a] SMILES codes were generated through *OPSIN* (https://opsin.ch.cam.ac.uk) by entering the systematic names (see **Table S1**).

[b] Ref. Lowe et al. *(1)*.

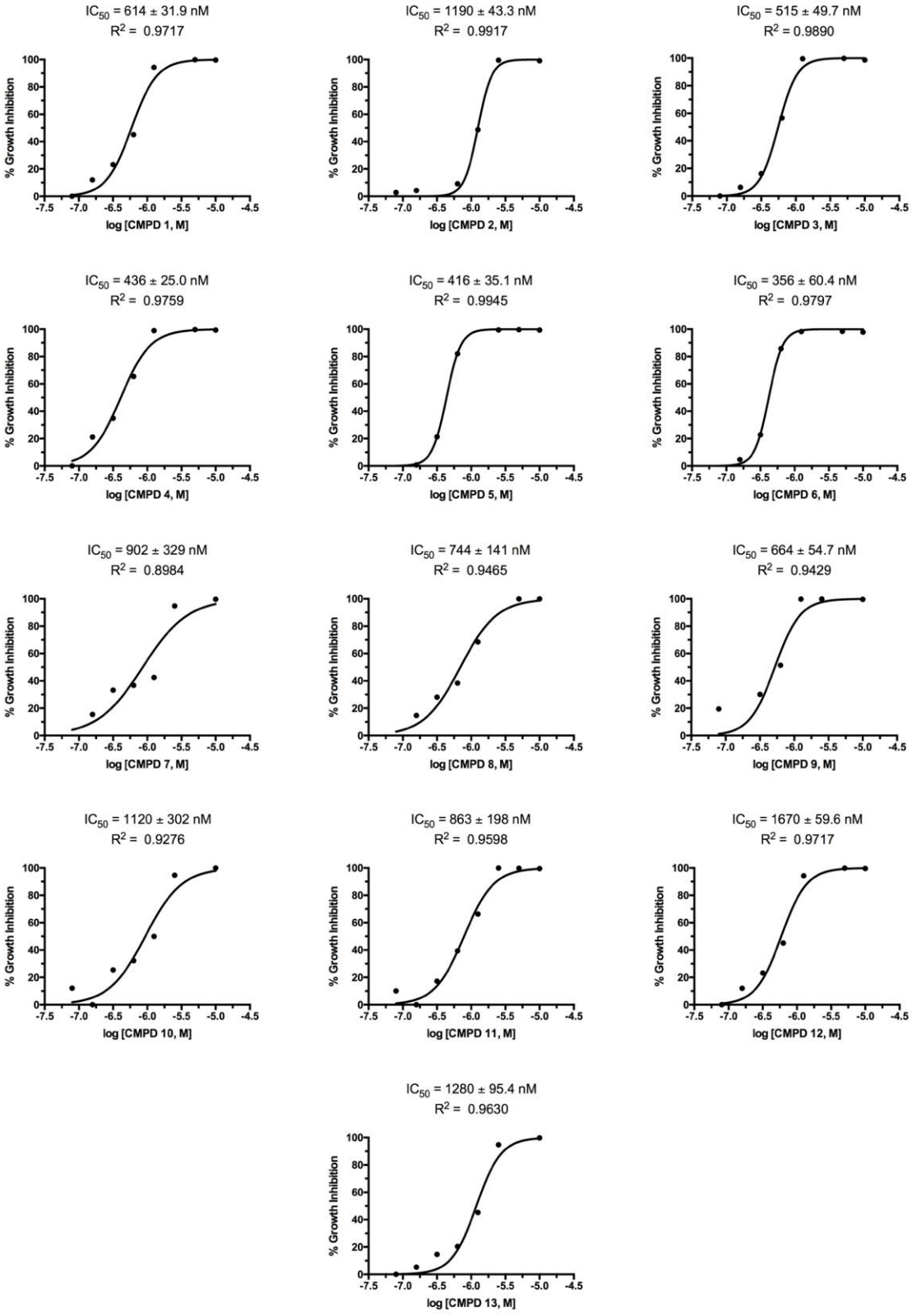
[c] Structures of compounds can be visualized by entering SMILES codes into the program *PubChem Sketcher v2.4* (https://pubchem.ncbi.nlm.nih.gov//edit3/index.html).

II. Biological Assays.

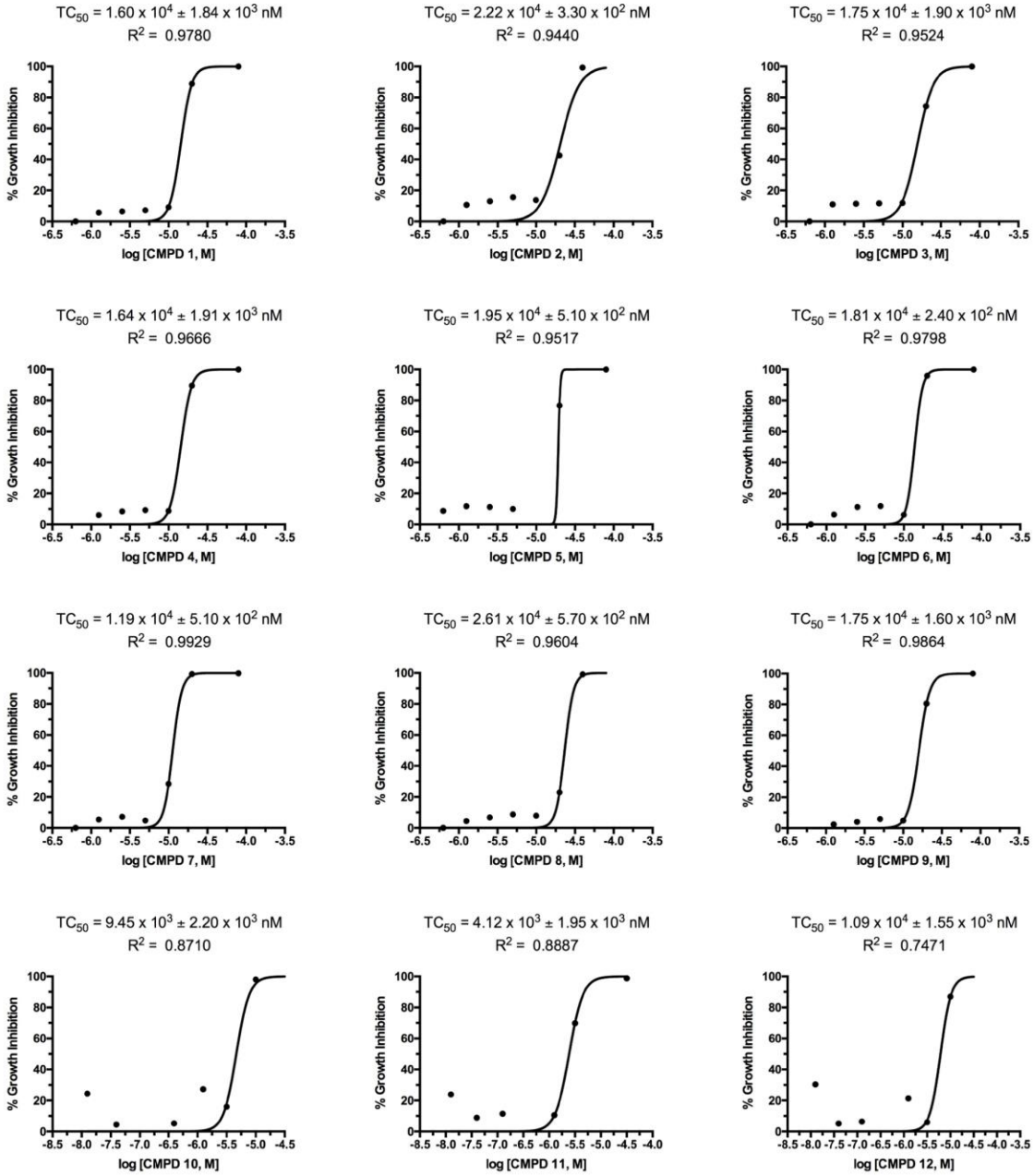
a. Figure S1. *In vitro* dose – response of compound activity (**1** – **13**) on *Trypanosoma cruzi* (Tulahuen strain) infective form co-cultured in mammalian NIH-3T3 fibroblasts. Data was collected in triplicate and the results are presented as IC_{50} plots shown as percent growth inhibition as a function of log ([compound]).



b. **Figure S2.** *In vitro* dose – response of compound activity (**1** – **13**) on *Trypanosoma brucei brucei* (427 strain) bloodstream form. Data was collected in triplicate and the results are presented as IC_{50} plots shown as percent growth inhibition as a function of log ([compound]).



c. Figure S3. *In vitro* dose – response of compound activity (**1** – **12**) on mammalian NIH-3T3 fibroblasts in order to assess cytotoxicity. Data was collected in triplicate and the results are presented as TC_{50} plots shown as percent growth inhibition as a function of log ([compound]). Note: Compound **13** was excluded due a poor fit to the sigmoidal curve.



Reference

([1.) Lowe, D. M., Corbett, P. T., Murray-Rust, P., and Glen, R. C. (**2011**) Chemical name to structure: OPSIN, an open source solution, *J. Chem. Inf. Model 51,* 739-753.