Table S4 The "effective" chemical compounds that significantly (> 3 s.d. or < - 3 s.d.) alter the period-length of both mouse and human clock cells.

Name [a]	Structure Name [b]	Function [c]
Amsacrine hydrochloride	4-(9-Acridinylamino)-N-(methanesulfonyl)-m-anisidine hydrochloride	DNA topoisomerase II inhibitor (35)
Ketoconazole	cis-1-Acetyl-4-[4-[[2-(2,4-dichlorophenyl)-2-(1H-imidazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl]-piperazine	Potent inhibitor of cytochrome P450c17 enzyme; antifungal agent (36)
Picrotoxin		GABA-C receptor antagonist; powerful, nonspecific CNS stimulant isolated from Anamirta cocculin (37)
SB 216763	3-(2,4-Dichlorophenyl)-4-(1-methyl-1H-indol-3-yl)-1H-pyrrole-2,5-dione	Potent, selective, cell permeable inhibitor of glycogen synthetase kinase-3 (GSK-3) (38)
BP 897	N-[4-(4-(2-methoxyphenyl)piperazinyl)butyl]-2-naphthamide	Partially selective D3 dopamine receptor agonist (39)
9-Cp-Ade	9-cyclopentyladenine	Cell-permeable, non-competitive adenylyl cyclase inhibitor; targets the P-site domain (40)
2-Chloroadenosine	6-Amino-2-chloropurine riboside	Adenosine receptor agonist with selectivity for A1 over A2 (41)
Cyproterone acetate	6-Chloro-1beta,2beta-dihydro-17-hydroxy-3'H-cyclopropa(1,2)-pregna-1,4,6-triene-3,20-dione acetate	Androgen antagonist; synthetic steroid (42)
Chloro-IB-MECA	2-Chloro-N6-(3-iodobenzyl)-adenosine-5'-N-methyluronamide	A3 adenosine receptor agonist (43)
(R,R)-cis-Diethyl tetrahydro-2,8-chrysenediol	(5R, 11R)-5,11-Diethyl-5,6,11,12-tetrahydro-2,8-chrysenediol	Potent estrogen receptor beta antagonist; potent partial agonist at estrogen receptor alpha (44)
cis-(Z)-Flupenthixol dihydrochloride	(Z)-4-[3-[2-(Trifluoromethyl)-9H-thioxanthen-9-ylidene]propyl]-1-piperazine-ethanol dihydrochloride	Dopamine receptor antagonist; antipsychotic (45)
IB-MECA	1-Deoxy-1-[6-[[(3-iodophenyl) methyl]amino]-9H-purin-9-yl]-N-methyl-beta-D-ribofuranuronamide	Selective A3 adenosine receptor agonist (43)
IIK7	N-Butanoyl 2-(9-methoxy-6H-isoindolo[2,1-a]indol-11-yl)ethanamine	Melatonin receptor agonist (46)
Phenamil methanesulfonate	3,5-Diamino-6-chloro-N-[imino(phenylamino)methyl]-pyrazinecarboxamide methansulfonate	Irreversible inhibitor of amiloride-sensitive Na^+ channels; derivative of amiloride (47)
SB206553 hydrochloride	N-3-Pyridinyl-3,5-dihydro-5-methyl-benzo[1,2-b:4,5-b']dipyrrole-1(2H)-carboxamide hydrochloride	Potent 5-HT2C/5-HT2B serotonin receptor antagonist (48)
Trequinsin hydrochloride	HL 725	Phosphodiesterase III (PDE III) inhibitor (49)
CGP 57380	N3-(4-fluorophenyl)-1h-pyrazolo[3,4-d]pyrimidine-3,4-diamine	Cell-permeable, selective mitogen-activated protein kinase-interacting kinase 1 (MNK1) inhibitor (50)
(R)-(+)-WIN 55,212-2 mesylate	(R)-(+)-[2,3-Dihydro-5-methyl-3[(morpholinyl)methyl]pyrrolo[1,2,3-de]-1,4-benzoxazinyl]-(1-naphthalenyl)methanone mesylate	High affinity cannabinoid receptor agonist (51)

The alias (Name) (**a**), structure name (**b**), and shortly summarized functions of the compounds (**c**) are listed. The upper four compounds colored gray are those that shortened the period, and the others that lengthened the period. See also **Table S3**, in which "potent effective" compounds that markedly (> 10 s.d.) alter the period-length of both clock cells are also listed.