

SI table 1: List of ninety seven anti-diabetic drugs.

c1 ([S@@] (NC (NCCCC)=O) (=O)=O) ccc (C) cc1 TOLBUTAMIDE
c1 ([S] (Nc2sc ([CH] (C) C) nn2) (=O)=O) ccc (N) cc1 GLYPROTHIAZOL
c1 ([S] (NC (NCCC)=O) (=O)=O) ccc (Cl) cc1 CHLORPROPAMIDE
c1 (CCNC (NC (N)=N)=N) cccccc1 PHENFORMIN
c1 ([S@@] (NC (NCCCC)=O) (=O)=O) ccc (N) cc1 CARBUTAMIDE
c1 ([S@@] (Nc2ncc (OCCOC) cn2) (=O)=O) cccccc1 GLYMIDINE
c12c (ccc (c1) [S] (NC (N[CH] 1CCCC1)=O) (=O)=O) CCC2 GLYHEXAMIDE
c1 (sc ([C] (C) (C) C) nn1) N[S] (c1ccc (N) cc1) (=O)=O GLYBUTHIAZOL
c1 ([S] (NC (N[CH] 2CCCC2)=O) (=O)=O) cc (c (C) cc1) N METAHEXAMIDE
c1 ([S] (NC (N[N] 2CCCC2)=O) (=O)=O) ccc (Cl) cc1 GLYCLOPYRAMIDE
C (NC (N)=N) ([N] (C) C)=N METFORMIN
c1 ([S] (NC (N[CH] 2CCCC2)=O) (=O)=O) ccc (C) cc1 GLYCYCLAMIDE
N (C (NC (N)=N)=N) CCCC BUFORMIN
c1 ([S] (NC (N[CH] 2CCCC2)=O) (=O)=O) ccc (C (C)=O) cc1 ACETOHEXAMIDE
c1 ([S] (NC (N[CH] 2CCCC2)=O) (=O)=O) ccc (C) cc1 TOLPENTAMIDE
c1 ([S] (NC (N[CH] 2CCCC2)=O) (=O)=O) ccc (C) cc1 HEPTOLAMIDE
c1 ([S] (NC (N[CH] 2CCCC2)=O) (=O)=O) ccc (C) cc1 GLYOCTAMIDE
c1 ([S] (NC (N[N] 2CCCC2)=O) (=O)=O) ccc (C) cc1 TOLAZAMIDE
c1 ([S] (NC (N[N] 2CCCC2)=O) (=O)=O) ccc (Cl) cc1 GLYPINAMIDE
c1 (sc ([C] (C) (C) C) nn1) N[S] (c1ccccc1) (=O)=O GLYBUZOLE
c1 (c (ccc (c1) OC) OC) [CH] ([CH] (N[C] (C) (C) C) O BUTOXAMINE
c12c (ccc (c1) [S] (NC (N[N] 1CCCC1)=O) (=O)=O) CCC2 GLIDAZAMIDE
c1 ([S] (Nc2sc (C[CH] (C) C) nn2) (=O)=O) ccc (OC) cc1 GLYSOBUZOLE
c1 ([S] (NC (N[CH] 2CCCC2)=O) (=O)=O) ccc (SC) cc1 THIOHEXAMIDE
C (CCCNC (N)=N) (N)=O TIFORMIN
c1 (ccc ([N] (C) C) cc1) NC (N[S] (c1ccc (Cl) cc1) (=O)=O)=O GLYPARAMIDE
c1 ([S@@] (NC ([N] 2CCCC2)=O) (=O)=O) ccc (C) cc1 TOLPYRRAMIDE
c1 ([S] (Nc2sc (CCCC) nn2) (=O)=O) ccc (Cl) cc1 BUTADIAZAMIDE
c1 (c (ccc (c1) Cl) OC) C (NCCc1ccc ([S] (NC (N[CH] 2CCCC2)=O) (=O)=O) cc1)=O
 GLYBURIDE
c1 ([S] (=O) (=O) [O-]) c (ccc (c1) O) O. c1 ([S] (=O) (=O) [O-]) c (ccc (c1) O) O. [Ca+2]
 CALCIUM DOBESILATE
C1 [CH] 2 [CH] (C [N] 1NC (N[S] (c1ccc (C) cc1) (=O)=O)=O) CCC2 GLICLAZIDE
c1 (c (ccc (c1) Cl) OC) NC (Cc1ccc ([S] (Nc2ncc (C[CH] (C) C) cn2) (=O)=O) cc1)=O
 GLICETANILE
c1 (ccc (CCNC (c2noc (c2) C)=O) cc1) [S] (NC (N[CH] 1CCCC1)=O) (=O)=O
 GLISOLAMIDE
c1 (ccc (CCNC (c2noc (c2) C)=O) cc1) [S] (NC (N[N] 1CCCC1)=O) (=O)=O
 GLISOXEPIDE
C1 ([N] ([CH] 2CCC=CC2) CC [N] 1 [S] (c1ccc (CCNC (CCC)=O) cc1) (=O)=O)=N
 GLIBUTIMINE
C1 [C] 2 ([C] ([C@H] ([C@@H] ([C@@H] 2O) NC (N[S@@] (c2ccc (C) cc2) (=O)=O)=O) (C1)) (C) C GLIBORNURIDE
c1 (ccc (CCNC (c2cnc (C) cn2)=O) cc1) [S] (NC (N[CH] 1CCCC1)=O) (=O)=O GLIPIZIDE
c1 (c (cccc1) OC) C (NCCc1ccc ([S@@] (NC (N[CH] 2CCCC2)=O) (=O)=O) cc1)=O GLIPENTIDE
c12c (C ([N] (CCC3ccc ([S] (NC (N[CH] 4CCCC4)=O) (=O)=O) cc3) C ([C] 1 (C) C)=O)=O) cc (OC) cc2 GLIQUIDONE
c1 (c (ccc (c1) F) OC) [C@H] (NC (Cc1ccc ([S] (Nc2ncc (C[CH] (C) C) cn2) (=O)=O) cc1)=O) (C) GLIFLUMIDE
c12c ([n] (CC) nc2C) ncc (c1OCC [CH] (C) C) C (NCCc1ccc ([S] (NC (N[CH] 2CCCC2)=O) (=O)=O) cc1)=O GLICARAMIDE
C (/NCCCC) (NC (N)=N)=N/CC ETOFORMIN

SI_table 2: Full list of all descriptors used in modeling process and their redundancy within the selected best filters.

Descriptor name	Redundancy
GCUT_SLOGP_0	24
a_ICM	16
PEOE_VSA+4	12
SMR_VSA1	10
logS	9
nmol	9
lip_druglike	9
chi1_C	8
GCUT_PEOE_0	8
opr_leadlike	7
Q_VSA_FPOS	7
SMR_VSA3	7
a_don	6
a_hyd	6
BCUT_SMR_3	4
chi1v_C	4
chiral	4
GCUT_PEOE_3	4
GCUT_SLOGP_3	3
PEOE_VSA_NEG	3
SMR_VSA6	2
a_nH	2
a_nN	2
a_nO	2
b_single	2
chi0v_C	2
chiral_u	2
PEOE_PC+	2
PEOE_VSA+5	2
PEOE_VSA_FNEG	1
a_IC	1
BCUT_SLOGP_3	1
bpol	1
b_count	1
b_double	1
chi0_C	1
density	1
GCUT_PEOE_1	1
GCUT_SMR_3	1
lip_violation	0
logP(o/w)	0
Q_VSA_FNEG	0

SI_table 2: Full list of all descriptors used in modeling process and their redundancy within the selected best filters.

SlogP_VSA8	0
SMR_VSA0	0
vsa_hyd	0
apol	0
a_acc	0
a_acid	0
a_aro	0
a_base	0
a_count	0
a_heavy	0
a_nB	0
a_nBr	0
a_nC	0
a_nCl	0
a_nF	0
a_nI	0
a_nP	0
a_nS	0
balabanJ	0
BCUT_PEOE_0	0
BCUT_PEOE_1	0
BCUT_PEOE_2	0
BCUT_PEOE_3	0
BCUT_SLOGP_0	0
BCUT_SLOGP_1	0
BCUT_SLOGP_2	0
BCUT_SMR_0	0
BCUT_SMR_1	0
BCUT_SMR_2	0
b_1rotN	0
b_1rotR	0
b_ar	0
b_heavy	0
b_rotN	0
b_rotR	0
b_triple	0
chi0	0
chi0v	0
chi1	0
chi1v	0

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diameter	0
FCharge	0
GCUT_PEOE_2	0
GCUT_SLOGP_1	0
GCUT_SLOGP_2	0
GCUT_SMR_0	0
GCUT_SMR_1	0
GCUT_SMR_2	0
Kier1	0
Kier2	0
Kier3	0
KierA1	0
KierA2	0
KierA3	0
KierFlex	0
lip_acc	0
lip_don	0
mr	0
mutagenic	0
opr_brigid	0
opr_nring	0
opr_nrot	0
opr_violation	0
PC+	0
PC-	0
PEOE_PC-	0
PEOE_RPC+	0
PEOE_RPC-	0
PEOE_VSA+0	0
PEOE_VSA+1	0
PEOE_VSA+2	0
PEOE_VSA+3	0
PEOE_VSA+6	0
PEOE_VSA-0	0
PEOE_VSA-1	0
PEOE_VSA-2	0
PEOE_VSA-3	0
PEOE_VSA-4	0
PEOE_VSA-5	0
PEOE_VSA-6	0

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PEOE_VSA_FHYD	0
PEOE_VSA_FPNEG	0
PEOE_VSA_FPOL	0
PEOE_VSA_FPOS	0
PEOE_VSA_FPPOS	0
PEOE_VSA_HYD	0
PEOE_VSA_PNEG	0
PEOE_VSA_POL	0
PEOE_VSA_POS	0
PEOE_VSA_PPOS	0
petitjean	0
petitjeanSC	0
Q_PC+	0
Q_PC-	0
Q_RPC+	0
Q_RPC-	0
Q_VSA_FHYD	0
Q_VSA_FPNEG	0
Q_VSA_FPOL	0
Q_VSA_FPPOS	0
Q_VSA_HYD	0
Q_VSA_NEG	0
Q_VSA_PNEG	0
Q_VSA_POL	0
Q_VSA_POS	0
Q_VSA_PPOS	0
radius	0
reactive	0
rings	0
RPC+	0
RPC-	0
rsynth	0
SlogP	0
SlogP_VSA0	0
SlogP_VSA1	0
SlogP_VSA2	0
SlogP_VSA3	0
SlogP_VSA4	0
SlogP_VSA5	0
SlogP_VSA6	0

SI_table 2: Full list of all descriptors used in modeling process and their redundancy within the selected best filters.

SlogP_VSA7	0
SlogP_VSA9	0
SMR	0
SMR_VSA2	0
SMR_VSA4	0
SMR_VSA5	0
SMR_VSA7	0
TPSA	0
VAdjEq	0
VAdjMa	0
VDistEq	0
VDistMa	0
vdw_area	0
vdw_vol	0
vsa_acc	0
vsa_acid	0
vsa_base	0
vsa_don	0
vsa_other	0
vsa_pol	0
Weight	0
weinerPath	0
weinerPol	0
zagreb	0