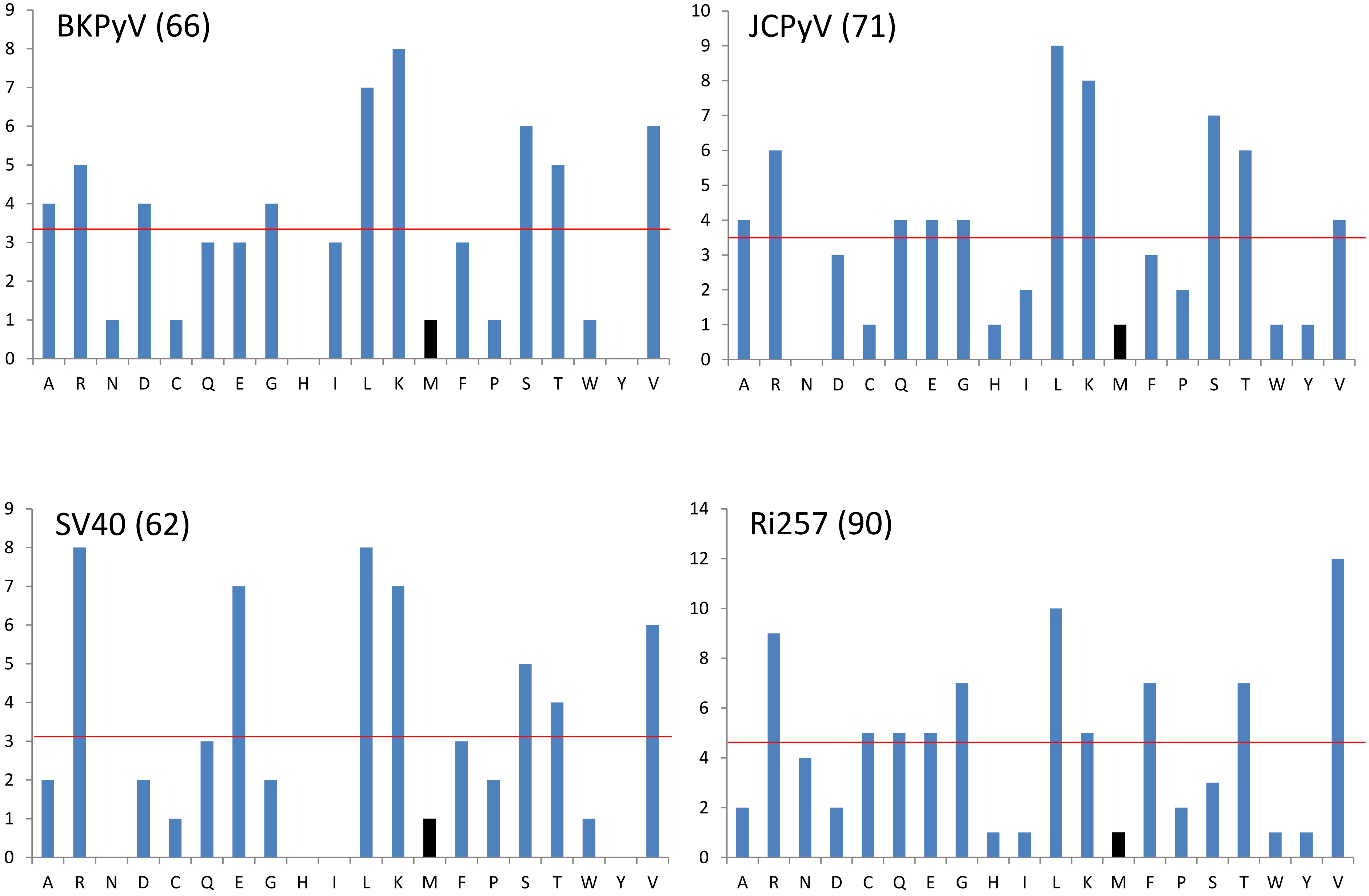
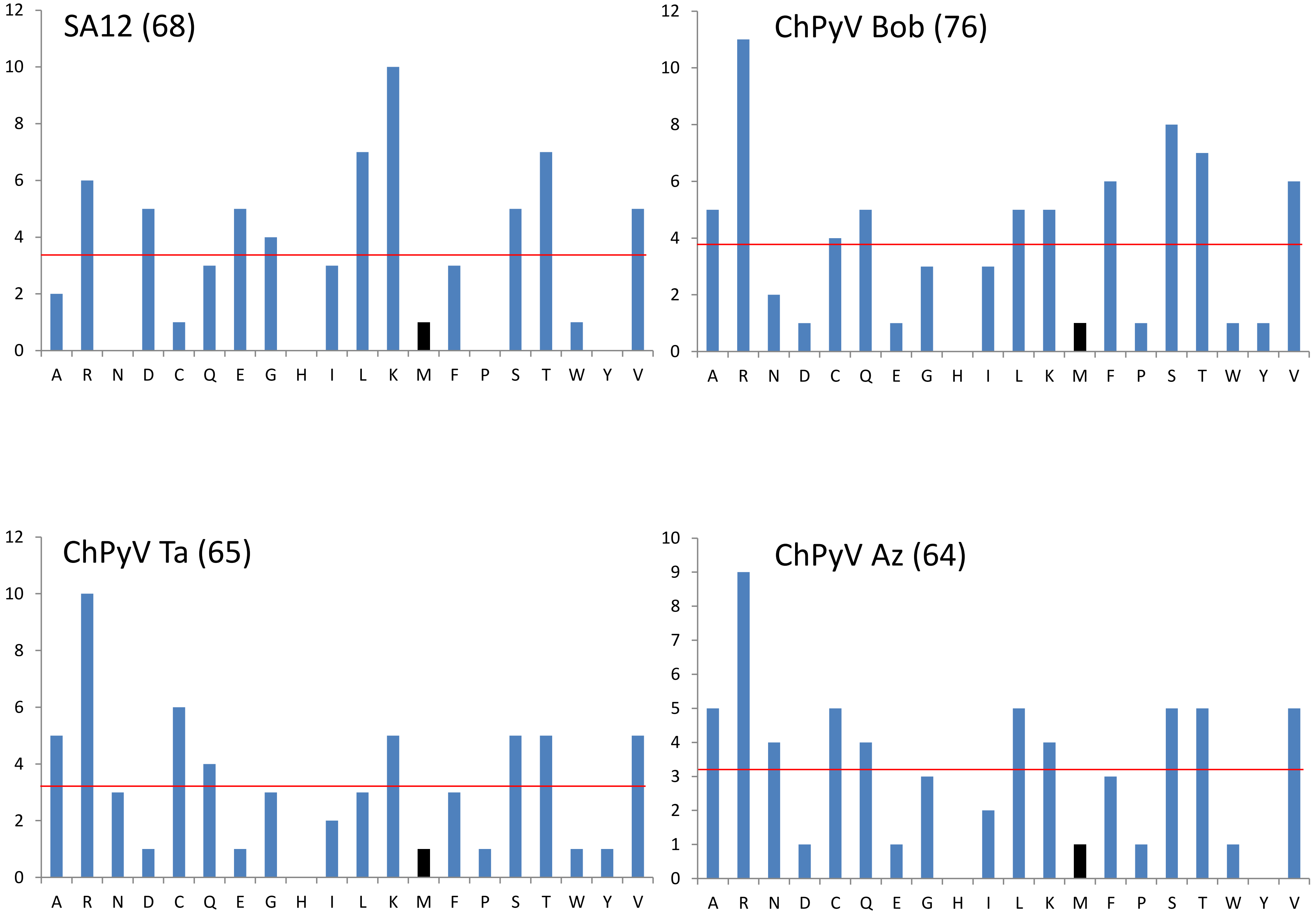
Figure S1. Prevalence of amino acids in agnoproteins from polyomaviruses. The number of each residue is represented by a blue bar, except for methionine which is shown in a black bar. The red line represents the theoretical expected frequency of a residue. E.g. BKPyV agnoprotein is 66 amino acids long. Therefore each amino acid is expected on average to occur 66:20=3.3 times.

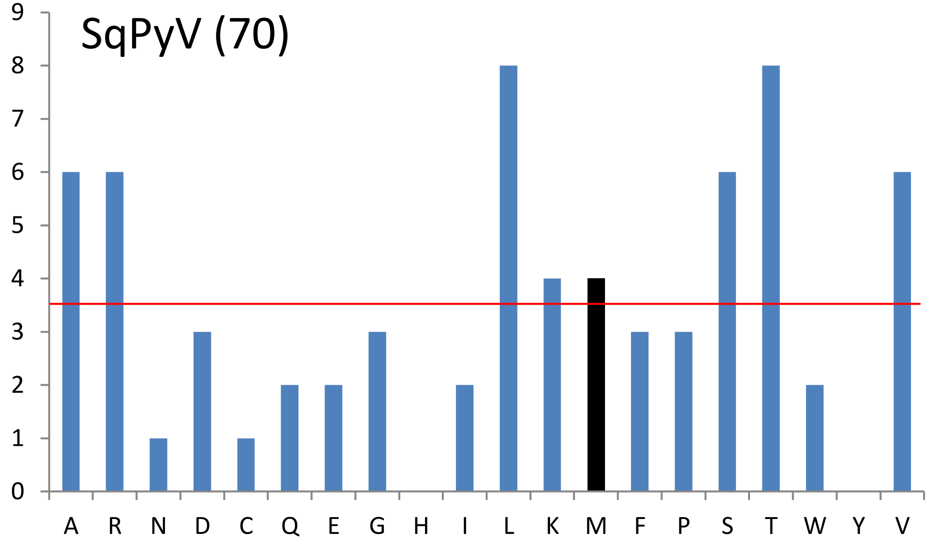
Figure S2. Kyte-Doolittle hydropathy plot of agnoproteins from polyomaviruses. The algorithm program http://gcat.davidson.edu/DGPB/kd/kyte-doolittle.htm was used.

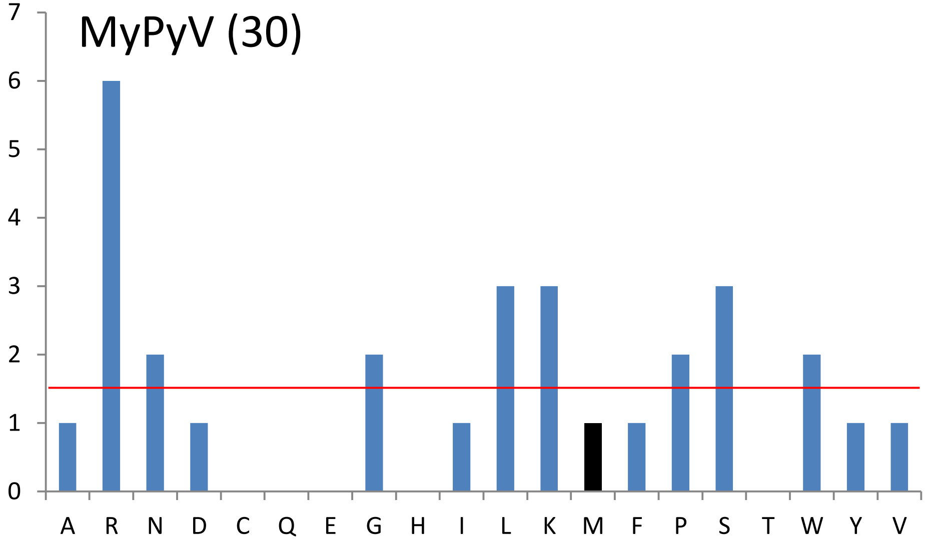
Table S1. Mutations in agnoprotein of PyV isolates. The one-letter amino acid code was used. Reported mutations are based on sequences deposited in the GenBank. Del= deletion.

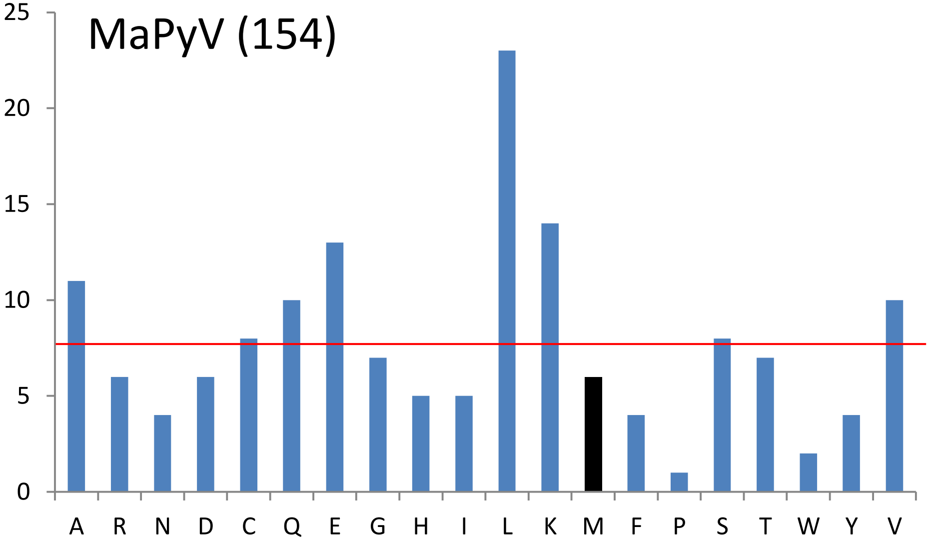
BKPyV	**JCPyV**	**SV40**
R8L, R8Q	L3F, L3del	S21T
Q9H	Q5L	Q26L, Q26R
QASV9-12del	S7L	L28F, L28I
K13R	A10V	K49del
V14I, V14L	S11F	K51G, K51R
G15S	V12M	E54Q
K23R	K13T	K59N
F29L	V14G, V14L	
E38K	K23R	
F39L	L29F, L29I	
E43K	F31I	
EDS43-45del	L32W	
V46I, V46L	L33V	
D47H	D38E, D38G, D38N	
N50I	C40F	
S52G	CTGEDS40-45del	
ALP55-57del	T41E, T41I	
K60R	GE42-43del	
V63I	GEDSVD42-47del	
	E43G, E43K, E43Q	
	EDSV43-46del	
	EDSVD43-47del	
	D44A, D44G	
	S45R	
	V46E	
	D47G, D47H, D47N, D47V	
	Q52K	
	R53K	
	H54N, H54P	
	S55C, S55I, S55R, S55T	
	G56A, G56R	
	LTEQTYS57-63del	
	E59Q	
	T61K, T61R	
	S63R	
	L65S	
	P68S	
	A70T	
	T71S	

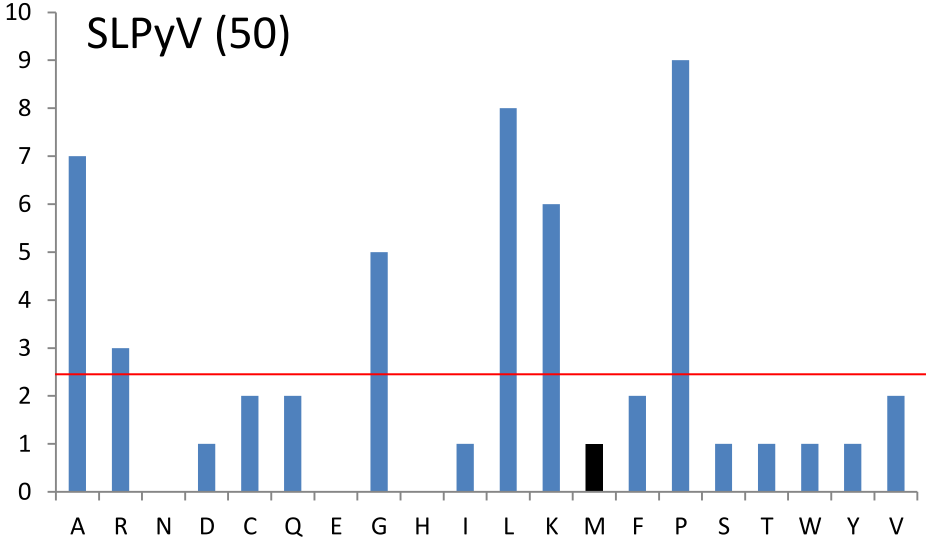

BKPyV (66)
0
1
2
3
4
5
6
7
8
9
A
R
N
D
C
Q
E
G
H
I
L
K
M
F
P
S
T
W
Y
V
JCPyV (71)
0
1
2
3
4
5
6
7
8
9
10
A
R
N
D
C
Q
E
G
H
I
L
K
M
F
P
S
T
W
Y
V
SV40 (62)
0
1
2
3
4
5
6
7
8
9
A
R
N
D
C
Q
E
G
H
I
L
K
M
F
P
S
T
W
Y
V
Ri257 (90)
0
2
4
6
8
10
12
14
A
R
N
D
C
Q
E
G
H
I
L
K
M
F
P
S
T
W
Y
V

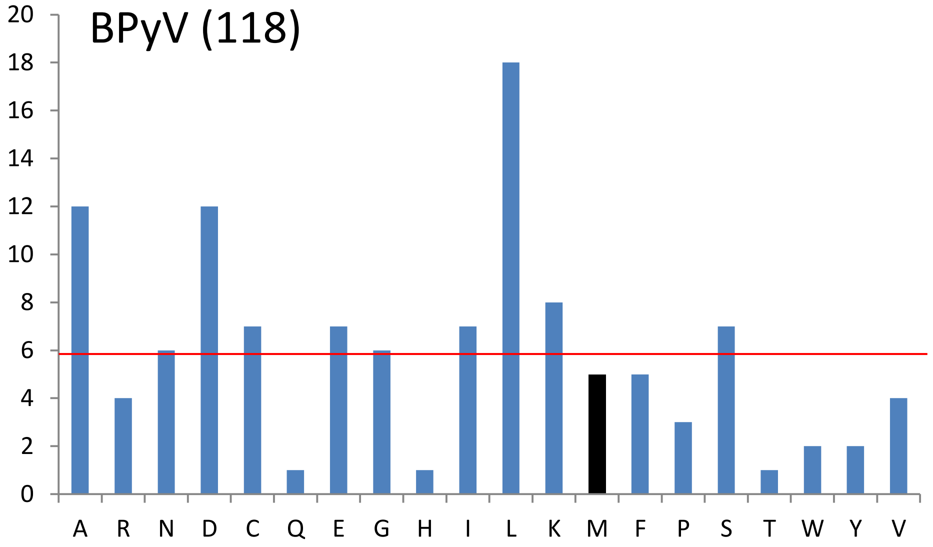

SA12 (68)
12
10
8
6
4
2
0
A R N D C Q E G H I L K M F P S T W Y V
ChPyV Bob (76)
12
10
8
6
4
2
0
A R N D C Q E G H I L K M F P S T W Y V
ChPyV Ta (65)
12
10
8
6
4
2
0
A R N D C Q E G H I L K M F P S T W Y V
ChPyV Az (64)
10
9
8
7
6
5
4
3
2
1
0
A R N D C Q E G H I L K M F P S T W Y V


SqPyV (70)
0
1
2
3
4
5
6
7
8
9
A R N D C Q E G H I L K M F P S T W Y V


MyPyV (30)
0
1
2
3
4
5
6
7
A R N D C Q E G H I L K M F P S T W Y V


MaPyV (154)
0
5
10
15
20
25
A R N D C Q E G H I L K M F P S T W Y V


SLPyV (50)
0
1
2
3
4
5
6
7
8
9
10
A R N D C Q E G H I L K M F P S T W Y V



BPyV (118)
20
18
16
14
12
10
8
6
4
2
0
A
R
N
D
C
Q
E
G
H
I
L
K
M
F
P
S
T
W
Y
V

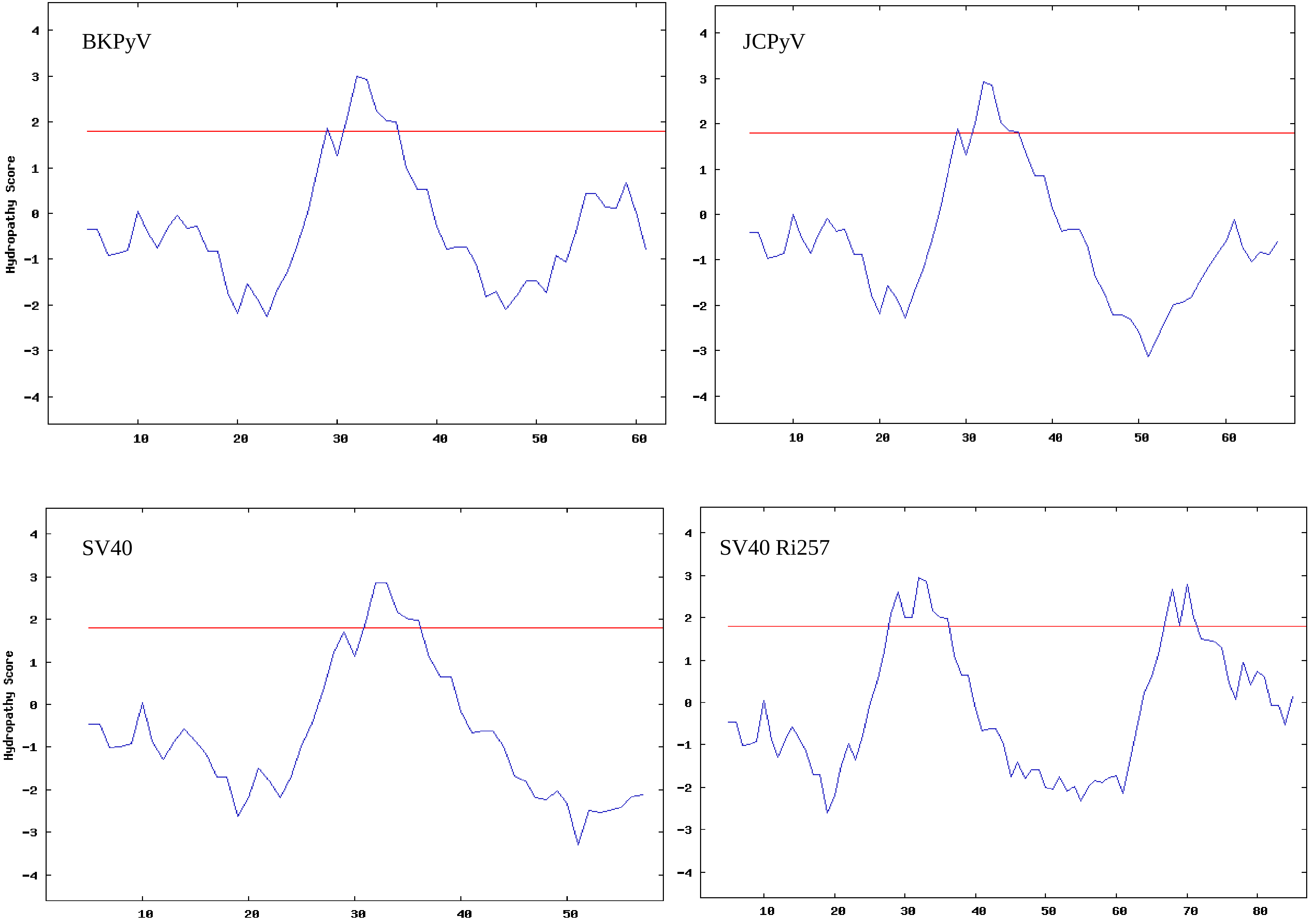
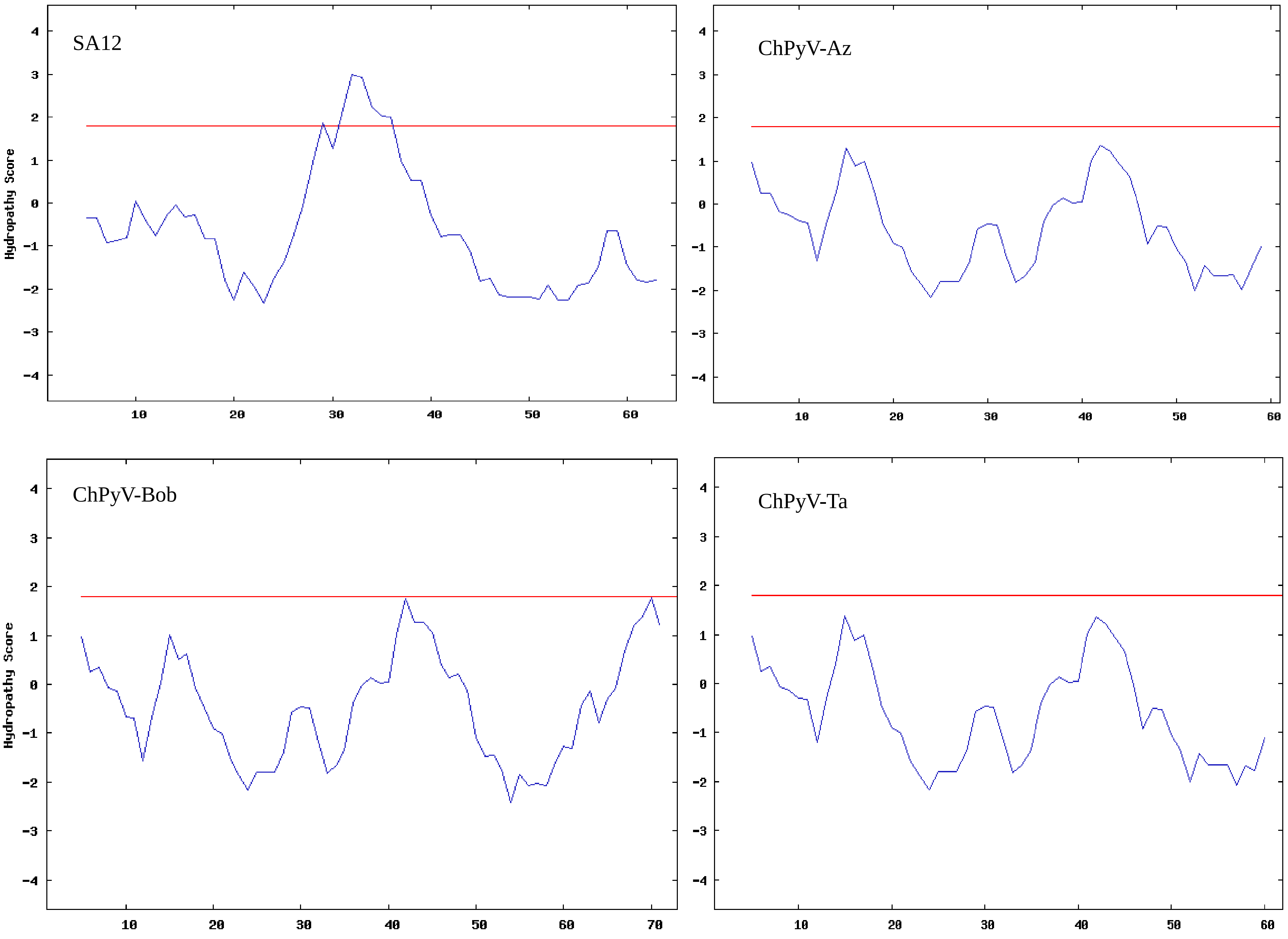
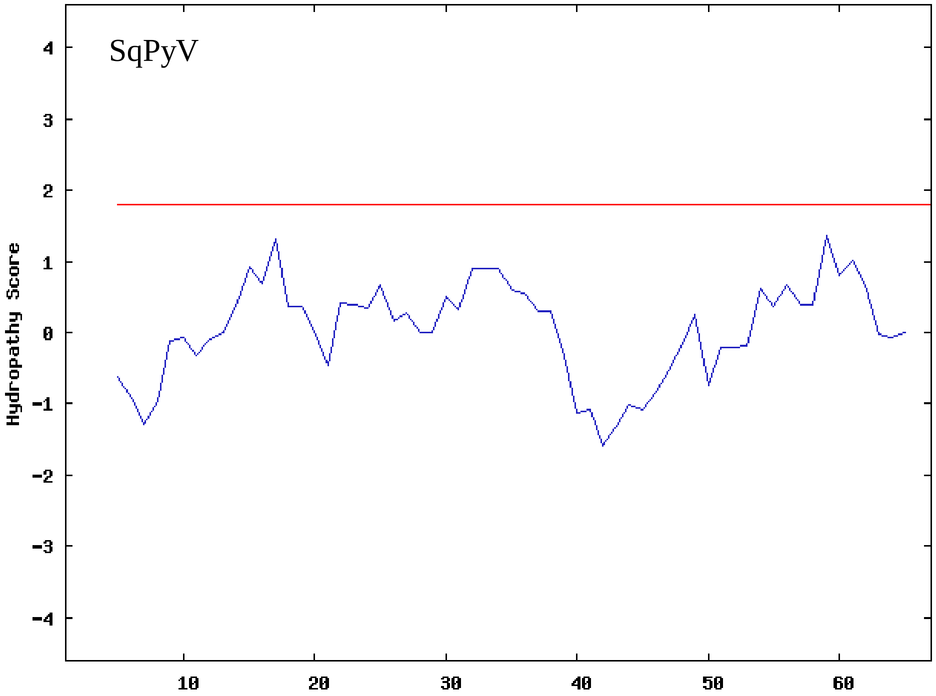
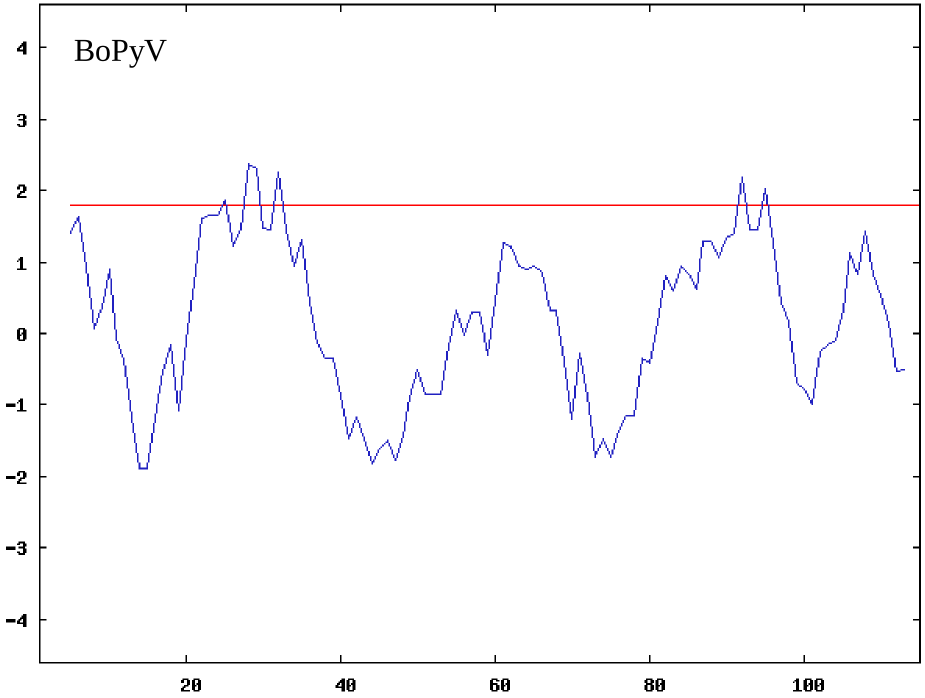
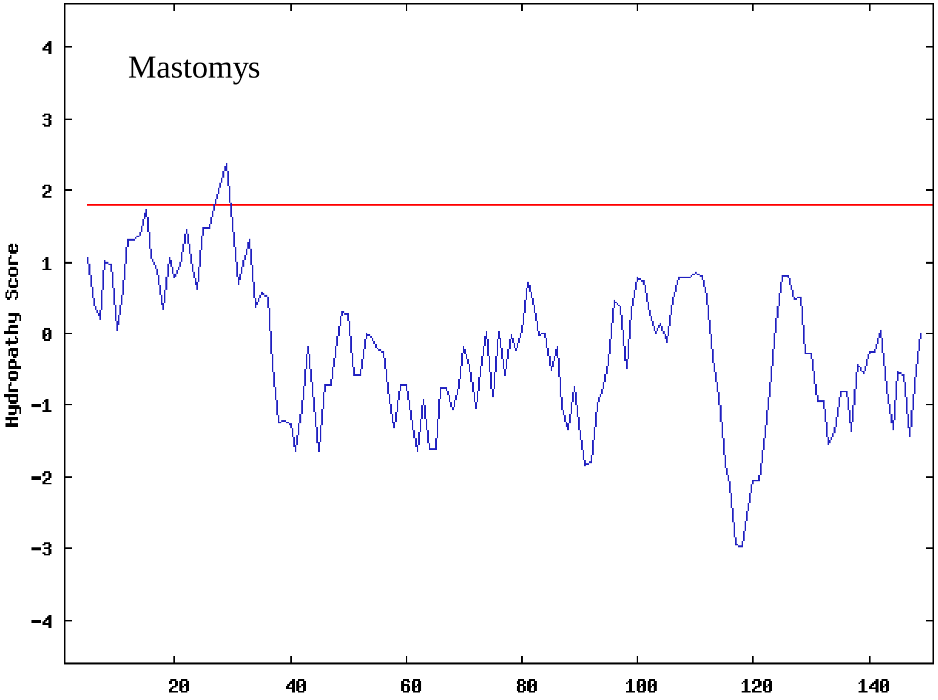

BKPyV
JCPyV
SV40
SV40 Ri257
Hydropathy Score
4
3
2
1
0
−1
−2
−3
−4
10
20
30
40
50
60
70
80

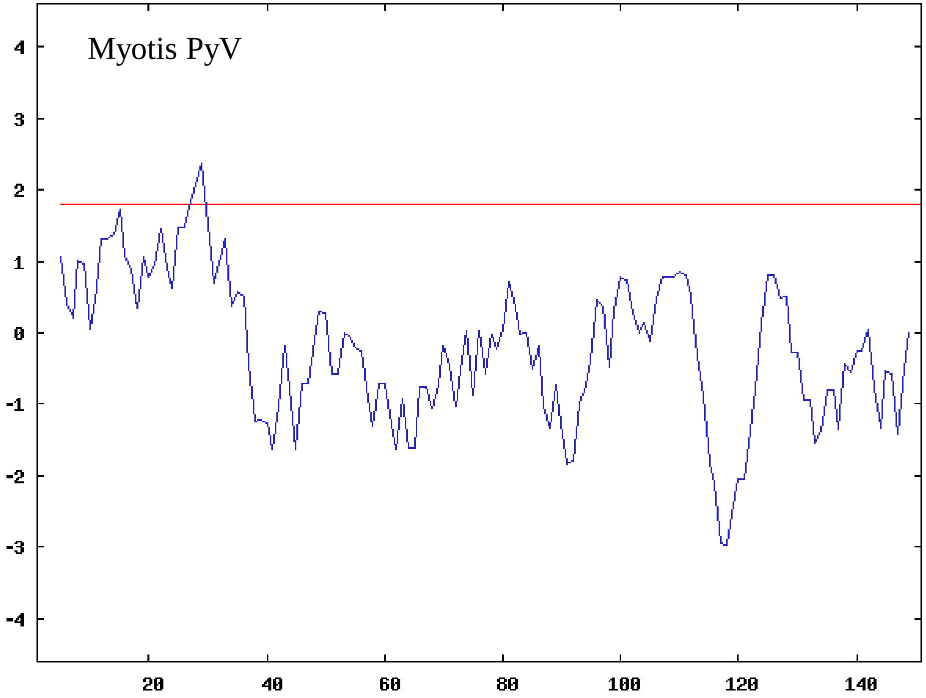
Figure S1

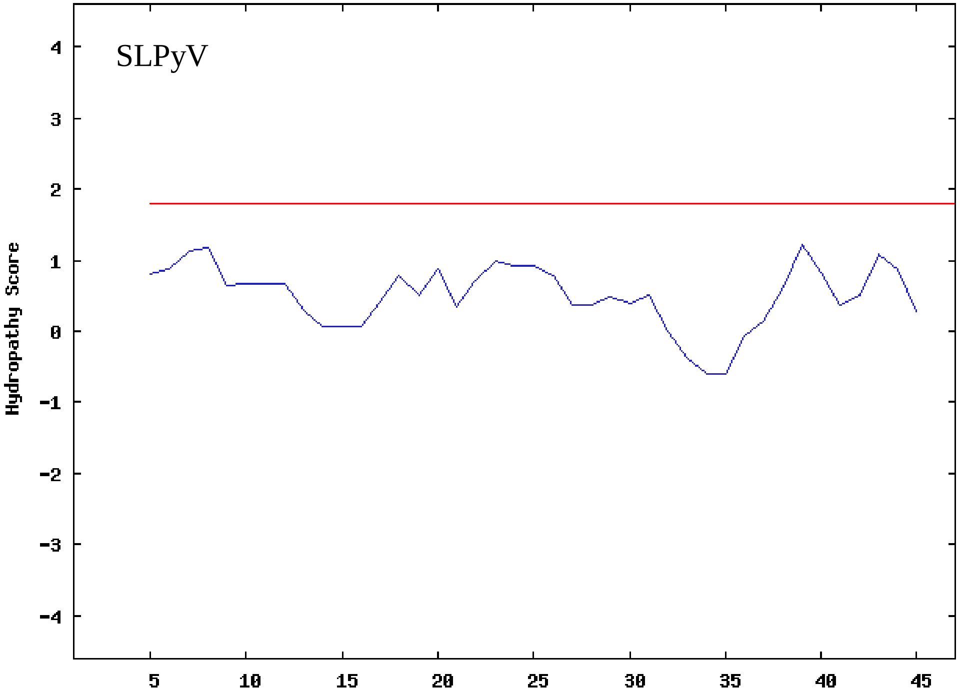

SA12
ChPyV-Az
ChPyV-Bob
ChPyV-Ta
Hydropathy Score
Hydropathy Score
4
3
2
1
0
−1
−2
−3
−4
10
20
30
40
50
60
70


SqPyV
Hydropathy Score
4
3
2
1
0
-1
-2
-3
-4
10
20
30
40
50
60


BoPyV
4
3
2
1
0
-1
-2
-3
-4
20
40
60
80
100


Mastomys
Hydropathy Score
4
3
2
1
0
-1
-2
-3
-4
20
40
60
80
100
120
140


Myotis PyV
4
3
2
1
0
-1
-2
-3
-4
20
40
60
80
100
120
140


SLPyV
Hydropathy Score
4
3
2
1
0
-1
-2
-3
-4
5
10
15
20
25
30
35
40
45