Supplementary Materials

(a)

Name of sequences

```
                                          1         11       1819      25  2829       Length
A.GM.-.MCN13.AY509259                CKRPGNKTVVPITLMSGLRFHSQPVINKRPRQAWC 35
A.IN.-.NIM_2.DQ478590                CKRPGSKTVVPITLMSGLVFHSQPI-SQRPRQAWC 34
A.IN.-.NIM2_a.EU574629               CKRPGNKTVVPITLMSGLVFHSQPI-SQRPRQAWC 34
A.PT.2000.00PTHDECT_20.GU983917      CRRPGNKTVVPITLMSGLIFRSQPI-NKRPGQAWC 34
A.IN.-.NIM_5_a.EU599050              CKRPGNKTVAPVTLMSGLIFHSQPI-NTRPRQAWC 34
A.IN.-.NIM_5.DQ478593                CKRPGNKTVAPVTLMSGLIFHSQPI-NTRPRQAWC 34
A.IN.1999.NARI_H2_6_3.DQ870445       CRRPGNKTVVPITLMSGLVFHSQPI-NKRPKQAWC 34
A.PT.1997.MS.GQ331136                CRRPGNKTVVPITLMSGLVFHSQPI-NKRPKQAWC 34
A.IN.2000.NARI_H2_15_3.DQ870472      CKRPGNKTVVPITLMSGLIFHSQPI-NNRPKQAWC 34
A.IN.2000.NARI_H2_8_3.DQ870451       CKRPGNKTVVPMTLMSGLIFHSQPI-NNRPRQAWC 34
A.IN.1999.NARI_H2_2_4.DQ870433       CKRPGNKTVVAITLMSGLVFHSQPI-NARPRQAWC 34
A.IN.-.NIM_7_a.EU639420              CRRPGNKTVVPITLMSGLIFHSQPI-NQRPRQAWC 34
A.IN.-.NIM_7.DQ973526                CRRPGNKTVVPITLMSGLIFHSQPI-NQRPRQAWC 34
A.GW.1994.A245.AF023879              CKRPGNKTVVPITLMSGLIFHSQPI-NRRPKQAWC 34
A.GW.1989.89GW2298.L76427            CKRPGNKTVVPITLMSGLVFHSQPI-NKRPRQAWC 34
A.CI.-.patient_31307.U67371          CKRPGNKTVVPITLMSGLVFHSQPI-NNRPRQAWC 34
A.GM.1990.CBL24.U05353               CKRPGNKTVVPITLMSGLVFHSQPI-NNRPRQAWC 34
A.IN.-.NIM_3.EU639424                CKRPGNKTVVPITLMSGLVFHSQPI-NNRPRQAWC 34
A.CI.-.patient_41863.U67376          CKRPGNKTVVPITLMSGLVFHSQPI-NRRPRQAWC 34
A.PT.1997.ARM.AJ001163               CKRPGNKTVVPITLMSGLVFHSQPI-NRRPRQAWC 34
A.PT.1997.ARM.L76739                 CKRPGNKTVVPITLMSGLVFHSQPI-NRRPRQAWC 34
A.SN.1986.ST_JSP4_27.M31113          CKRPGNKTVVPITLMSGLVFHSQPI-NKRPRQAWC 34
A.CI.-.patient_2000593.U67379        CKRPGNKTVVPITLMSGLVFHSQPI-NKRPRQAWC 34
A.GW.1989.89GW1682.L76420            CKRPGNKTVVPITLMSGLVFHSQPI-NKRPRQAWC 34
A.IN.1995.NARI_H2_5_4.DQ870442       CKRPGNKTVVPITLMSGLVFHSQPI-NKRPRQAWC 34
A.IN.1999.NARI_H2_7_2.DQ870448       CKRPGNKTVVPITLMSGLVFHSQPI-NKRPRQAWC 34
A.IN.2001.NARI_H2_1_4.DQ870430       CKRPGNKTVVPITLMSGLVFHSQPI-NKRPRQAWC 34
A.CI.-.patient_3502964.U67385        CKRPGNKTVVPITLMSGLVFHSQPI-NTRPRQAWC 34
A.IN.-.NIM_4_b.EU587007              CKRPGNKTVVPITLMSGLVFHSQPI-NTRPRQAWC 34
A.IN.2000.NARI_H2_16_4.DQ870475      CKRPGNKTVVPITLMSGLVFHSQPI-NTRPRQAWC 34
A.IN.1996.NARI_H2_4_3.DQ870439       CKRPGNKTVVPITLMSGLVFHSQPI-NERPRQAWC 34
A.IN.2001.NARI_H2_3_3.DQ870436       CKRPGNKTVVPITLMSGLVFHSQPI-NERPRQAWC 34
                                     ********* ***** * ****.  ** ****
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(b)

Name of sequences

```
                                          1         11      1819     25  2829      Length
A.IN.-.NIM_8.DQ973521                CKRPGNKTVVPITLMSGLIFHSQP-INNRPRQAWC 34
A.IN.1999.NARI_H2_9_3.DQ870454       CKRPGNKTVVPITLMSGLIFHSQP-INTRPRQAWC 34
A.PT.-.ALI.AF082339                  CKRPGNKTVVPITLMSGLIFHSQP-INKRPRQAWC 34
A.IN.1999.NARI_H2_12_3.DQ870463      CRRPGNKTVVPITLMSGLVFHSQP-INDRPRQAWC 34
A.PT.1997.MLC.GQ331135               CKRPGNKTVAPITLMSGLVFHSQP-INNRPRQAWC 34
A.IN.1999.NARI_H2_17_2.DQ870478      CKRPGNKTVLPITLMSGLVFHSQP-INTRPRQAWC 34
A.GW.1989.89GW1817.L76425            CKRPGNKTVAPITLMSGLVFHSQP-INTRPRQAWC 34
A.GW.1989.89GW336.L76429             CKRPGNKTVVPVTLMSGLVFHSQP-INKRPRQAWC 34
A.ES.1997.SS2.AF176768               CKRPGNKTVVPITLMSGLVFHSQP-INQRPRQAWC 34
A.ES.1997.SS3.AF176769               CKRPGNKTVVPITLMSGLVFHSQP-INKRPRQAWC 34
A.ES.1997.SS4.AF176770               CKRPGNKTVVPITLMSGLVFHSQP-INKRPRQAWC 34
A.SN.1996.M6960625CB.EU530903        CKRPGNKTVVPITLMSGLVFHSQP-INKRPRQAWC 34
A.SN.1996.M6960625CD.EU530905        CKRPGNKTVVPITLMSGLVFHSQP-INKRPRQAWC 34
A.SN.1997.M6970408CA.EU530913        CKRPGNKTVVPITLMSGLVFHSQP-INKRPRQAWC 34
A.SN1998MIN652ENVVLP3605EU530819     CKRPGNKTVVPITLMSGLVFHSQP-INKRPRQAWC 34
H2_01_AB.CI.1990.7312a.FB293476      CKRPGNKTVVPITLMSGLVFHSQP-INKRPRQAWC 34
H2_01_AB.CI.1990.7312A.L36874        CKRPGNKTVVPITLMSGLVFHSQP-INKRPRQAWC 34
A.GW.1989.89GW1808.L76421            CKRPGNKTVVPITLMSGLVFHSQP-INTRPRQAWC 34
A.IN.-.NIM_6.DQ478594                CKRPGNKTVVPITLMSGLVFHSQP-INTRPRQAWC 34
ASN1999MIN1974ENVPC3603.EU530878     CKRPGNKTVVPITLMSGLVFHSQP-INTRPRQAWC 34
ASN1999.MIN3473ENVPC3675EU530851     CKRPGNKTVVPITLMSGLVFHSQP-INTRPRQAWC 34
A.IN.-.NIM_1_a.EU639409              CKRPGNKTVVPITLMSGLVFHSQP-INRRPRQAWC 34
A.SN.1995.M6950315C1.EU530891        CKRPGNKTVVPITLMSGLVFHSQP-INRRPRQAWC 34
A.SN.1998.M6980428CA.EU530923        CKRPGNKTVVPITLMSGLVFHSQP-INRRPRQAWC 34
A.ES.1997.SS1.AF176767               CKRPGNKTVVPITLMSGFKFHSRPVINKRPRQAWC 35
A.PT.1997.ETP.GQ331132               CKRPGNKTVKPITLMSGYKFHSRPVINEKPRQAWC 35
A.PT.2000.00PTSJP3A.AY500199         SRRPGNKTVVPITLMSGMRFHSRPVINDKPKQAWC 35
A.PT.2003.03PTHDECT_47.GU983933      CKRPGNKTSVPITLMSGYRFHSQAVINTKPKQAWC 35
A.PT.2003.03PTHDECT_50.GU983934      CKRPGNKTVVPITLMSGYRFHSQAVINTKPKQAWC 35
                                     ********* ****** * ****  ** * ****
```

(c)

Name of sequences	Sequence	Length
	1 11 18 19 25 28 29	
A.IN.2000.NARI_H2_13_1.DQ870467	CKRPGNRTVVPITLMSGLVFHSQP-INTRPKQAWC	34
A.IN.2001.NARI_H2_11_2.DQ870462	CKRPGNRTVVPITLMSGLVFHSQP-INTRPKQAWC	34
A.CI.1989.89CI1654.L76419	CRRPGNKTVAPITLMSGLVFHSQP-INQRPRQAWC	34
A.PT.1993.TER.GQ331137	CKRPGNKTVLPITLMSGLVFHSQP-INRRPRQAWC	34
A.PT.1993.JAU.GQ331133	CKRPGNKTVVPITLMSGLVFHSQP-LNRRPKQAWC	34
A.JP.2008.NMC786.AB499691	CKRPGNKTVVPITLMSGLVFHSQP-INRRPKQAWC	34
A.IN.1999.NARI_H2_10_2.DQ870459	CKRPGNKTVVPITLMSGLVFHSQP-INKRPKQAWC	34
A.GW.1989.89GW1816.L76424	CRRPGNKTVVPITLMSGLVFHSQP-INTRPKQAWC	34
A.GW.1989.89GW1812.L76422	CRRPGNKTVVPITLMSGLVFHSQP-INKRPKQAWC	34
A.GW.1989.89GW2300.L76428	CRRPGNKTVVPITLMSGLVFHSQP-INKRPKQAWC	34
A.FR.-.96325.AF170050	CKRPGNKTVVPITLMSGLVFHSQP-INKRPKQAWC	34
A.FR.-.96326.AF170038	CKRPGNKTVVPITLMSGLVFHSQP-INKRPKQAWC	34
A.IN.2000.NARI_H2_14_6.DQ870471	CKRPGNKTVVPITLMSGLVFHSQP-INKRPKQAWC	34
A.DE.-.BEN.M30502	CKRPGNKTVLPITLMSGLVFHSQP-INTRPKQAWC	34
A.DE.-.BEN.NC_001722	CKRPGNKTVLPITLMSGLVFHSQP-INTRPKQAWC	34
A.GH.-.GH1.M30895	CKRPGNKTVVPITLMSGLVFHSQP-INTRPKQAWC	34
A.PT.1992.93PTHDESC_21.JX219597	CKRPGNKTVTPITLMSGLVFHSQP-INTRPKQAWC	34
A.GW.1989.89GW1010.L76430	CKRPGNKTVVPITLMSGYRFHTQPVINTRPRQAWC	35
A.US.1988.E4420.U24388	CKRPGNKTVVPITLMSGMKFHSRPVINKKPRQAWC	35
A.IN.1995.CRIK_147.DQ307022	CKRPGNKTVTPITLMSGYKFHSRPVINTRPKQAWC	35
A.PT.1993.MIL.GQ331134	CKRPGNKTVVPITLMSGAKFHSREVINTKPKQAWC	35
	****** ** ******* ** * ** * ****	

Figure S1. Alignment of the V3 loop of HIV-2 sequences obtained from Los Alamos database (http://www.hiv.lanl.gov, accessed on 18 February 2022). V3 sequences from (**a**) asymptomatic (**b**) symptomatic and (**c**) AIDS diagnosed individuals. Amino acids are denoted by single-letter code. The red boxes highlight the positions 18, 19, 25, 28 and 29 of the V3 loop (numbered according to the first Cys (C) residue), (-) represents a gap and * indicates conserved residues. Yellow highlight represents sequences with valine insertion in position 25.
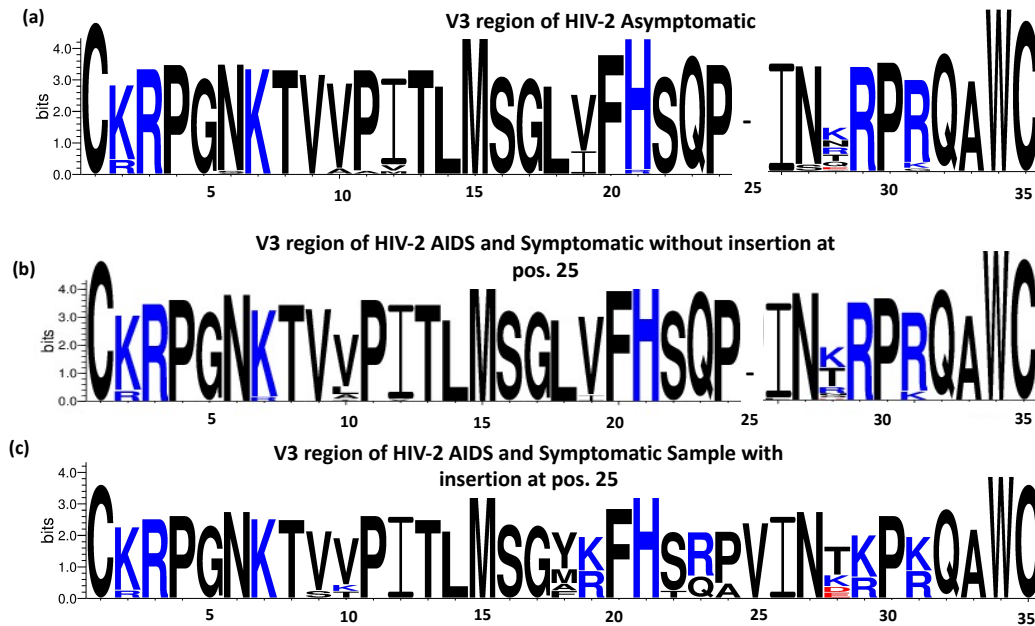
Figure S2. Genetic diversity of V3 loop of HIV-2 Env. HIV-2 Env V3 sequences from (**a**) asymptomatic, (**b**) symptomatic and (**c**) AIDS diagnosed individuals were collected from the Los Alamos National Laboratory (LANL) HIV sequence database (accessed on 18 February 2022)(http://www.hiv.lanl.gov). ClustalW was used to align multiple amino acid sequences, and variability of sequences was schematically visualized using Weblogo. Positively charged amino acids (H, K, R) highlighted in blue and negatively charged amino acids represented in red (D, E).

CCR5

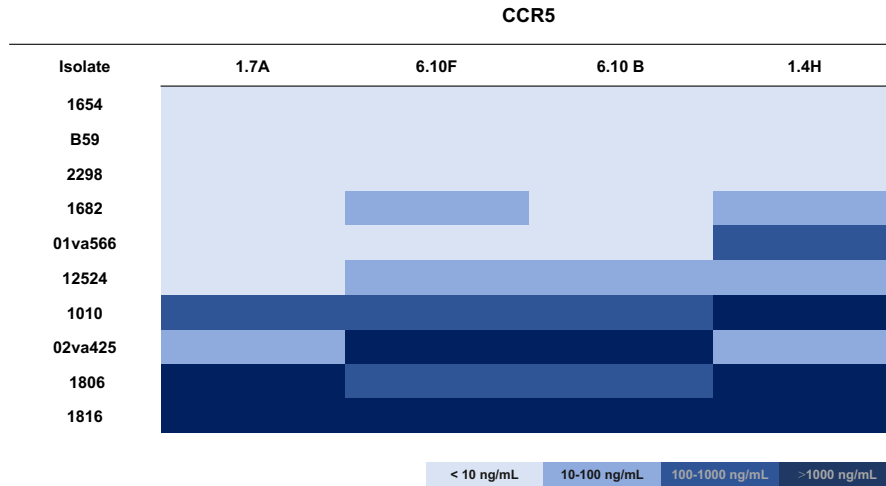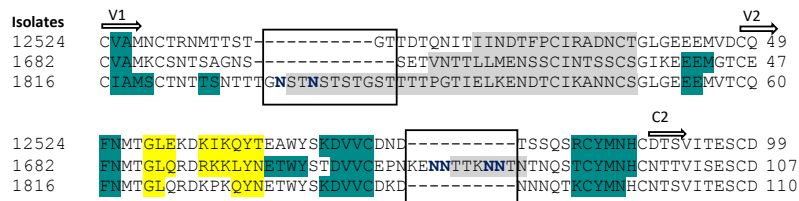| Isolate	1.7A	6.10F	6.10 B	1.4H
1654				
B59				
2298				
1682				
01va566				
12524				
1010				
02va425				
1806				
1816				

< 10 ng/mL	10-100 ng/mL	100-1000 ng/mL	>1000 ng/mL

Figure S3. Neutralizing titers of mABs against HIV-2 primary isolates for infection of CCR5 expressing GHOST (3) cells.

(a)

```
                V1                                                          V2
Isolates
12524   CVAMNCTRNMTTST-----------GTTDTQNITIINDTFPCIRADNCTGLGEEEMVDCQ 49
1682    CVAMKCSNTSAGNS-----------SETVNTTLLMENSSCINTSSCSGIKEEEMGTCE 47
1816    CIAMSCTNTTSNTTTGNSTNSTSTGSTTTTPGTIELKENDTCIKANNCSGLGEEEMVTCQ 60

                                                                C2
12524   FNMTGLEKDKIKQYTEAWYSKDVVCDND----------TSSQSRCYMNHCDTSVITESCD 99
1682    FNMTGLQRDRKKLYNETWYSTDVVCEPNKENNTTKNNTNTNQSTCYMNHCNTTVISESCD 107
1816    FNMTGLQRDKPKQYNETWYSKDVVCDKD----------NNNQTKCYMNHCNTSVITESCD 110
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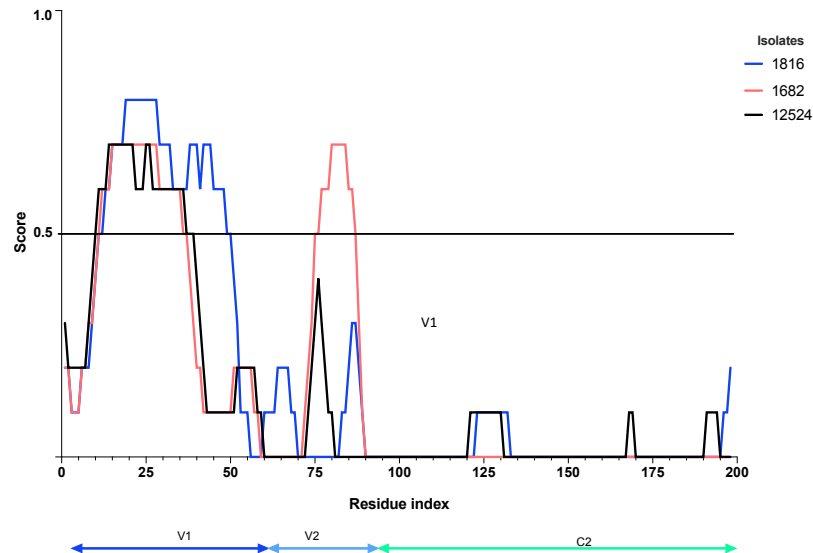
(b)

V1

V2

C2

Figure S4. Comparison of V1/V2 region of 12524 R5/X4 user isolate. (**a**) Alignment of V1/V2 regions of HIV-2 1816, 1682 and 12524 isolates. Yellow highlight represents beta strand, green highlight represents alpha-helix, while the grey represents the predicted disordered regions. Amino acids are presented by single-letter code. Black boxes indicate regions with insertions. Potential N-linked glycosylation sites in the insertions are represented in dark blue. (**b**) Disorder prediction of the V1/V2 and C2 regions of HIV-2 12524 envelope. Prediction was performed by using IUPred3 and SPOT-Disorder2 online servers [30,31]. Cut-off is represented with black line at score 0,5.

3

Table S1. Sequences of HIV-2 V1 and V2 regions used in analysis for insertion in the variable region.
Data regarding sequences including sequence name, status and "given name" in the alignment

Status	ID	ID in alignment
AIDS	A.DE.-.BEN.M30502	AIDS1
	A.DE.-.BEN.NC_001722	AIDS2
	A.GH.-.GH1.M30895	AIDS3
	A.IN.1995.CRIK_147.DQ307022	AIDS4
	A.IN.1999.NARI_H2_10_2.DQ870459	AIDS5
	A.IN.2000.NARI_H2_13_1.DQ870467	AIDS6
	A.IN.2000.NARI_H2_14_6.DQ870471	AIDS7
	A.IN.2001.NARI_H2_11_2.DQ870462	AIDS8
	A.PT.1992.93PTHDESC_21.JX219597	AIDS9
	A.PT.1993.JAU.GQ331133	AIDS10
	A.PT.1993.MIL.GQ331134	AIDS11
	A.PT.1993.TER.GQ331137	AIDS12
Asymptomic	A.GM.-.MCN13.AY509259	AYSM1
	A.GM.1990.CBL24.U05353	AYSM2
	A.IN.1995.NARI_H2_5_4.DQ870442	AYSM3
	A.IN.1996.NARI_H2_4_3.DQ870439	AYSM4
	A.IN.1999.NARI_H2_2_4.DQ870433	AYSM5
	A.IN.1999.NARI_H2_6_3.DQ870445	AYSM6
	A.IN.1999.NARI_H2_7_2.DQ870448	AYSM7
	A.IN.2000.NARI_H2_8_3.DQ870451	AYSM8
	A.IN.2000.NARI_H2_15_3.DQ870472	AYSM9
	A.IN.2000.NARI_H2_16_4.DQ870475	AYSM10
	A.IN.2001.NARI_H2_1_4.DQ870430	AYSM11
	A.IN.2001.NARI_H2_3_3.DQ870436	AYSM12
	A.PT.1997.MS.GQ331136	AYSM13
	A.PT.2000.00PTHDECT_20.GU983917	AYSM14
	A.SN.1986.ST_JSP4_27.M31113	AYSM15
	A.PT.1997.ARM.AJ001163	AYSM16
	A.PT.1997.ARM.L76739	AYSM17
Symptomatic	A.IN.-.NIM_1.DQ473391	SYM1
	A.IN.1999.NARI_H2_9_3.DQ870454	SYM2
	A.IN.1999.NARI_H2_12_3.DQ870463	SYM3
	A.IN.1999.NARI_H2_17_2.DQ870478	SYM4
	A.PT.-.ALI.AF082339	SYM5
	A.PT.1997.ETP.GQ331132	SYM6
	A.PT.1997.MLC.GQ331135	SYM7
	A.PT.2003.03PTHDECT_47.GU983933	SYM8
	A.PT.2003.03PTHDECT_50.GU983934	SYM9
	H2_01_AB.CI.1990.7312a.FB293476	SYM10
	H2_01_AB.CI.1990.7312A.L36874	SYM11

(a)

```
              V1
            ⟹
AYSM1    CVAMRCNNTDARN TTTPTTAS-------PRTIKP VTEISENSSCIRANNCS-GLGEEEVV
AYSM2    CVAMKCNNTATTR GGST------SHVHNCCTATG AMEINETSPCVSTNNCT-GLGDEEMI
AYSM3    CVAMNCSNITSSN TSAG-----------NTPTST TLEIKENSSCISNNTCP-GLREEEIV
AYSM4    CVAMNCNTTTRNT TTHSNN-------TTTTTPS TLEINETSPCASANTCT-GLEEEEIA
AYSM5    CVAMSCNNTSTGN TTTS-------------T-N VSEVNDTSPCARANNCP-GLAEEEMV
AYSM6    CVAMNCSKNSGST S-TPPPST--TSAHTIIPTPN VTEINENSSCIRTNNCS-GLGEEEIV
AYSM7    CVAMNCSSTGTGN TT-------------TTAAT EPLIRENSSCIRTNNCS-GLGQEEIV
AYSM8    CVAMNCSRKNSGS TSTGNTTT--ASTSATTTSTS EPMINESSSCIRTNNCS-GLREEEMV
AYSM9    CVAMNCSRDNTST GNT------------TTSTP TSIISENSSCIHENNCS-GLGDEDIV
AYSM10   CVTMKCNTSMATT ---------------TPKAT ETTINETFPCIRADNCA-GLGDEEIV
AYSM11   CVAMSCNNTSTGD TTTP-------------ASS SLEVNETSPCTHTDSCL-GLAEEEMV
AYSM12   CVAMNCNTTTRNT TTHSNN-------TTTTTPS TLEINETSPCASANTCT-GLEEEEIA
AYSM13   CVAMNCSSMGNTT ATTST----------TTTTTD EKELDKNDTCIKGDNCT-GLGMEDMV
AYSM14   CVAMRCMI----- ---------------------- ---NESSSCIKTDNCT-GLEDEEMV
AYSM15   CVAMRCNSTTAKN TTS---------TPTTTTTAN TTIGENSSCIRTDNCT-GLGEEEMV

SYM1     CVAMNCSRNDTSR STTASSSTSTATSTTKSTTPE TPEIRENSPCIRANNCS-GLGEEEIV
SYM2     CVTMKCNTGMATT ---------------TPKAT ETTINETFPCIRADNCA-GLGDEEMV
SYM3     CVAMNCSINSNNT RAE-------------NTSK IIITNKTGCINTNDSP-GLGKEEVV
SYM4     CVAMNCSRNITST ATPTI--------STNTSKTP EIEINETSPCVSTNSCP-GLGDEEIV
SYM5     CIAMKCSNISTES TTTSPS----------PGSTLK PLINESDPCIKADNCPRGLGDEEMV
SYM6     CVAMQCNNTKTGS TTTSPT------TSAATTPQI PKVVDDSSSCAGNDTCP-GLGDEETV
SYM7     CVAMKCTNMTTPR AATTT--------TPTTTTSNK TLIDENSPCIRTNNCS-GLGEEDMM
SYM8     CVAMTCIL----- ---------------------- ---NENSSCIKENNCT-GIGDEEMI
SYM9     CVAVTCIL----- ---------------------- ---NENSSGIKENNCT-GIGDEEMI
SYM10    CVAMSCNSTTATT TPPSTT----NNTTTTEPTTG GPEINETFPCMRTDNCT-GLGEEEMV
SYM11    CVAMSCNSTTATT TPPSTT----NNTTTTEPTTG GPEINETFPCMRTDNCT-GLGEEEMV

AIDS1    CVAMNCSRVQGNT TTPNPRTS--SSTTSRPPTSA ASIINETSNCIENNTCA-GLGYEEMM
AIDS2    CVAMNCSRVQGNT TTPNPRTS--SSTTSRPPTSA ASIINETSNCIENNTCA-GLGYEEMM
AIDS3    CVAMSCNSTTN-- -----------NTTTTGSTTGM SEINETSPS-YSDNCT-GLGKEEIV
AIDS4    CVTMRCNTSTTTT TTAPTSTS----AGSTATPK PIMVNENTSCMHANNCS-GLGEEEVV
AIDS5    CVAMNCTPVPTNI ST-PNI--------TATNTSK TLEINETSPCISANDCS-GLEEEEMV
AIDS6    CVAMNCSKKGNNT RTGNVTTT--AATTTTTTKNN ITEINETSPCIRNNTCS-GLRDEEIV
AIDS7    CIAMSCRNTSTGN TTRARH------TPT-TTIKT PIEINESNPCIRGNNCS-GLGEEEMV
AIDS8    CVAMNCSRNSSNT STGNTNATTSSTSAPATSPIP NLIINDSSTCINKSSCT-GLGREEIV
AIDS9    CVAMTCNSTRSNN TESN-----------TNTTAE APEINDNSSCIRANNCS-GLGEEETV
AIDS10   CVAMNCTGNTTKS TTPKPSNT--PSVYTSSVSTT MKVLEENDPCIKESNCT-GLGREEMV
AIDS11   CVAMTCNYTDTSN ATTGNSSTSIPTTTTTTTTQT AAEVGTGSPCIRKDSCP-GLGEEEVV
AIDS12   CVAMTCNKTENTT TATD-------------PIQ TPEINDTSSCAHTDNCT-GLGEEEMV
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(b)

```
                           V2 insertion                    C2
                           ⇒⇒                              ⇒
AYSM1     WYSKD-VVCEGNG----------TTDTCYMNHCNTSVITES
AYSM2     WYSKD-VVCDSTPGNS------TNQSRCYMNHCNTSVITES
AYSM3     WYSRD-VVRE-----NN----TNNTSRCYMNHCNTSVITES
AYSM4     WYSRD-VVCETKT--NN----TSNQSRCYMNHCNTSVITES
AYSM5     WYSSD-VVCEATGN-------TSNQSRCYMHHCNTSVIRVS
AYSM6     WYSSD-VVCDN-----------NSSRCYMNHCNTSVITES
AYSM7     WYSSD-VVCEPVTNT--------TNQKCYMNHCNTSVITES
AYSM8     WYSSD-VVCETPSN-------APNQSRCYMSHCNTLVITES
AYSM9     WYSND-VVCEPIKADNT-SNNTSNRERCYMNHCNTSVIKES
AYSM10    WYSED-VVCE-----NS----TANSSKCYMNHCNTSVITES
AYSM11    WYSSD-VVCETTGNTSN----TSNQSRCYMNHCNTSVITES
AYSM12    WYSRD-VVCETKT--NN----TSNQSRCYMNHCNTSVITES
AYSM13    WYSRD-VVCENSSDSKT-ANKSKDNMRCYMNHCNTSVITES
AYSM14    WYSRD-VVCENSSDSKT-ANKSKDNMRCYMNHCNTSVITES
AYSM15    WYSTD-VVCDTSSGN-T-SE--ENTTRCYMNHCNTSVITES
AYSM16    WYSKD-VVCD---------------RCYMNHCDTSVITES
AYSM17    WYSKD-VVCESNDTK--------KEKTCYMNHCNTSVITES

SYM1      WYSSD-VVCEANAT--------LNQSRCYMKHCNTSVITES
SYM2      WYSSD-VVCGANETDNS-SQ--TSYSRCYMNHCNTSVITES
SYM3      WYSKD-VVCETIGNTSA---ENTTARRCYMNHCNTSVITES
SYM4      WYSKD-VVCEEATNTSG----TTNTSRCYMNHCNASVITES
SYM5      WYSKD-VVCEPFNTT-------TNQTRCYMNHCNTSVITES
SYM6      WYSKD-VVCAKTNTANG----TKADSTCYMSHCNTSVIKES
SYM7      WYSKD-VVCDKA-DNS------ANQTRCYMNHCNTSVITES
SYM8      WYSKDRVVCDK---------------CYMNHCNTSVIRES
SYM9      WYSKD-VVCDK---------------CYMNHCNTSVIRES
SYM10     WYSKD-VVCESNN-AS------DGRDRCYMNHCNTSVITES
SYM11     WYSKD-VVCESNN-AS------DGRDRCYMNHCNTSVITES

AIDS1     WYLED-VVCDNTT-----------AGTCYMRHCNTSIIKES
AIDS2     WYLED-VVCDNTT-----------AGTCYMRHCNTSIIKES
AIDS3     WYSKD-VVCESNN-TK------DGKNRCYMNHCNTSVITES
AIDS4     WYSRD-VDCEPDSTT-------NSRKCYMNHCNTSVITES
AIDS5     WYSSD-VVCNE-----------NQTRCYMNHCNTSVITES
AIDS6     WYSSD-VVCEE-----------NQTRCYMNHCNTSVITES
AIDS7     WYSSD-VDCEATNT-------SSGQSRCYMKHCNTSVIRES
AIDS8     WYSKD-VTCEANRNG-------TDRIRCYMSHCNTSVITES
AIDS9     WYSRD-VVCENSSDSETTGNSSRNNMRCYMNHCNTSVITES
AIDS10    WYSRD-VVCESYNETNE-NN--ESQSRCYMNHCNTSVITES
AIDS11    WYSKD-VVCERNVTA-------KKDRCYMNHCNTTVITES
AIDS12    WYSKD-VICKTKN----------NTTRCYMNHCNTSVITES
```

Figure S5. Alignment of V1/V2 region of HIV-2 sequences. From **(a)** Alignment of V1 region from asymptomatic individuals, symptomic and AIDS patients. **(b)** Alignment of V2 region from asymptomatic, symptomic and AIDS patients. Amino acids are denoted by single-letter code. The red boxes highlight the insertions in the V1 and V2 regions.
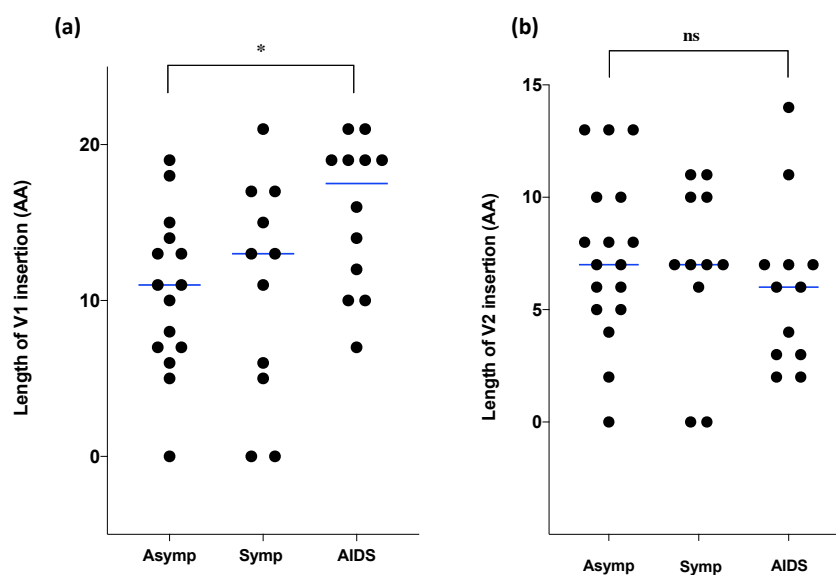
Figure S6. Length of insertions in the V1 and V2 region between asmyptomatic, symptomic and AIDS groups.
(a) Length of V1's insertion was significantly different between asymptomatic and AIDS groups. Statistical differences calculated according to non-parametric Mann-Whitney analysis, * P = 0,0162). **(b)** Comparison of length of V2's insertion did not differ any of the groups.

Table S2. Primers used for sequencing of HIV-2 *env*. HIV-2 BEN was used as a reference strain (GenBank accession number M30502), (F: Forward; R: Reverse).

Primer	Sequences	Position according to HIV-2 BEN *env*
F31 (F)	5' TGT TTy TTr mAm Aar GGr CTC G 3'	6040-6061
F41 (F)	5' AAT TTG TrA CTG TyT TCT ATG G 3'	6212-6229
F42 (F)	5' ACT GTy TTC TAT GGm rTr CCC 3'	6216-6239
F43 (F)	5' TTC TAT GGm rTr CCC GCG TGG 3'	6222-6242
KH2OF (F)	5' GAG ACA TCA ATA AAA CCA TGT GTC 3'	6420-6443
CRSEQ-3 (F)	5' CAT TGC AA CAA TCr GTC ATy A 3'	6756-6777
CRSEQ2_F (F)	5' Gay AAG CAC TAT TGG GAT GC 3'	6789-6808
CRSEQ5 (F)	5' ATG TGG ACT AAC TGC AGr GGA 3'	7308-7328
TH2OR (R)	5' TTC TGCCAC CTC TGC ACT AAA GG 3'	7549-7571
CRSEQ7+AGT (F)	5' AGT GCA GCA ACA GCA ACA GC 3'	7787-7806
CRSEQ-8 (R)	5' GAG AAA ACA GGC CTA TAG CC 3'	8262-8281
CRSEQ9+G (F)	5' GGC TAT AGG CCT GTT TTC TC 3'	8262-8281
R3 (R)	5' ATC TAy ATC ATC CAT ATT yTG yTG 3'	8806-8829
R2 (R)	5' TGT TTy TTr mAm Aar GGr CTC G 3'	8815-8839

7