

**Appendix J** The sequence information of the conserved motifs in different families of sorghum sugar transporters

Gene Family	Motif Name	Motif Length	Motif Sequence
SUT_motif	MEME-1	50	QYGWALQLSLLTPYVQTLGISHAYVSLTWLCGPIAGLVVQPLVGYYSDRC
	MEME-2	46	FKSLKLNLPGMPSVLIVTALTWLSWFPFILYDTDWMGREIYHGEPD
	MEME-3	44	TKEHCSTYTGSRWHAAAVYIVGFWLLDFANNTVQGPARAMMADL
	MEME-4	50	HGPNVANAI FSLWMALGNILGYSAGATAKWHEWFPFLKTAACCEACANLK
	MEME-5	50	YBEGVREGAFGLLLNSVVLGVTSFLIEPLCRKLGARVVWSISNFMVFIAM
	MEME-6	50	VTAZLAAEEGGGQGLATGVLNIAIVLPQLIIALGAGPWDGLFGKGNIPAF
	MEME-7	29	SKLGRRRPFILAGCIIICLAVJVIGFSAD
	MEME-8	29	PDKTIKSAALVIFALLGIPLAILYSVPFA
	MEME-9	29	AFLVAVIFLIITMSVTLWFAGEZPLDPAB
	MEME-10	21	SRKPPIGIVRLFLACMVAGGV
	MEME-11	18	EEGNNKQRLEWATMNLER
	MEME-12	24	GFALIAGVLAJLLLPKTRGVSNAS
	MEME-13	14	NNEEFPNGNVDGDN
	MEME-14	17	TAMVVLGIVSMKGYKPS
	MEME-15	7	WSLKDHH
	MEME-16	7	PVKDRDQ
	MEME-17	6	DGELEL
	MEME-18	6	NPGEEQ
	MEME-19	6	PYRFJR
	MEME-20	6	MDGGDG
SWEET_motif	MEME-1	29	GJLGNVFSFLMFLAPLPTFRRVIKTKSVE
	MEME-2	29	FVATPNGLGFVFELVQJVLVLLYAPKKAK

	MEME-3	15	YLATLLNAMLWFLYG
	MEME-4	41	EGKDAGGKLPSAADEHVLVNI AKLSPALPERSSGVHRATQM
	MEME-5	6	YMPFSL
	MEME-6	11	AHTHERRSMVV
	MEME-7	15	FTAKILLLLNNGVFG
	MEME-8	11	MAGLSLQHPWA
	MEME-9	20	MLPNRDVVDV FVSRQSPAVH
	MEME-10	8	PVVHPNSI
	MEME-11	16	IIEARKRKADQVAMTE
	MEME-12	6	GFQSV P
	MEME-13	15	ILLTLLLFKGD KRV
	MEME-14	11	MVSPDTIRTAI
	MEME-15	6	LLIKDK
	MEME-16	6	QYSPIP
	MEME-17	6	LIRFDL
	MEME-18	6	DDEEEP
	MEME-19	14	AVPAKSCAAEAAAP
	MEME-20	6	LIKSNE
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	MEME-1	29	PIYISETAPTEIRGLLNTJ PQFTFWIGMI
	MEME-2	41	MKGAVLV AIAASIGNLLQGWDNATIAGAVLYIKKEFHLZSZ
	MEME-3	50	SYCMVFGMTLMPS PDWRJMLGVLSJPSLIYFALTIFYLPESPRWL VSKGR
TMT_motif	MEME-4	50	TYSLPVMLNAIGLAGVFGIYAVVCCLALVFVYLKVPETKGMPLEVITEFF
	MEME-5	29	LMLWSPNII LLLARLVEGLGIGLATTJV
	MEME-6	49	AKGPRWKDLFEPGVRRALFVGVGIQILQQFAGINGVLYYTPQILEQAGV
	MEME-7	29	EGLJVATSLIGATIITTFSGPVADWVGRR
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	MEME-8	21	GETVSSMGIGGGWQLAWKWTE
	MEME-9	15	IVYFCCFVMGFGPIP
	MEME-10	22	SQYKPLVDPVVTLFGSVHEKMP
	MEME-11	13	KEGGFKRMYLHEE
	MEME-12	19	RRSTLFPNFGSMFSVAEQH
	MEME-13	26	DEGLDGDKEQITLYGPEEGLSWVARP
	MEME-14	19	GEFVHAAALVSQSALYSKD
	MEME-15	29	YASDGGGGDIEDNLQSPLJSRQATSVEGK
	MEME-16	11	DWDEENQHPND
	MEME-17	7	RCRPGQH
	MEME-18	11	PMLIASSILYF
	MEME-19	8	MKEAKAVL
	MEME-20	6	EYIIGP
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	MEME-1	48	YVGCYQLSFGPIGWLMISEIFPLRLRGRGJGLAVLVNFGSNALVTFAF
	MEME-2	14	AYTIVDDLGRPEL
	MEME-3	35	PSSPRWLLLCAIQKGKGNLDPNKEKAIRCLCRLRGR
	MEME-4	45	PNFVILIIGRFLYGIGIGLAMHGAPLYIAETAPSQIRGMLISLKE
	MEME-5	49	YIGQEKZGNFWEIFZGKCLKAFIIGCGLVFFQQITGQPSVLYYAASIFQ
VGT_motif	MEME-6	43	PFFFPALGGLLFGYDIGATSGATISLKSPDFSGTDWFNLSSLQ
	MEME-7	19	WRYMFGFSAPLCLIMGIGM
	MEME-8	13	HIVPETKGLSLEE
	MEME-9	7	RQRPHVR
	MEME-10	6	KLJMTG
	MEME-11	6	YYKJLD
	MEME-12	6	DLEDLI
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	MEME-13	7	ASDAARV
	MEME-14	10	RAPAPAECYS
	MEME-15	20	FIVLGILLGYFVGNLEIENV
	MEME-16	6	EEKILK
	MEME-17	6	FGVIAV
	MEME-18	6	SWVPVI
	MEME-19	6	SGSLYG
	MEME-20	6	AAAEGD
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	MEME-1	50	PCLLLJPGLFFIPESPRWLAKMGKMEEFETSLQVLRGFDTDISSEEVNEIK
	MEME-2	50	IPNIIGWLAISSAKDASFLYMGRLLLEGFGVGIJSYVVPVYIAEISPKNLR
	MEME-3	50	RRLPKIRFQDLFQKKYITPLIVGIGLLVLQQLGGINGILFYASSIFKAAG
	MEME-4	50	TMTANLLLSWSSGGTFFIYAAVSAFTVVFVILWVPETKGRGLEEIQWSFR
	MEME-5	50	GYSSPTQDGIVRDLNLSJSEFSVFGSJLNVGAMVGAIASGQMAEYIGRKG
	MEME-6	41	AFSLGMGAIPWVIMSEILPVNIKSLAGSLATLANWLTSFAI
	MEME-7	41	TSGNLGTFALGAIQVPATGVGTLLMDRAGRILLIISSTGT
	MEME-8	29	LGTVNQLSITFGISLAYVLGLFVPWRLLA
EDR_motif	MEME-9	40	RRQSLLAPGGSSMAVLRESHVSAFLCTLIVALGPIQFGFT
	MEME-10	29	FYIKDNISQSDLYNILSMVSLVGVAFAV
	MEME-11	15	GSDHDGALQKPLLPT
	MEME-12	21	FLGCFLVGLSFLAKEQHWERD
	MEME-13	6	GSWYRM
	MEME-14	8	DCGKEEGD
	MEME-15	15	TAVAVAGSFEFGISV
	MEME-16	6	LPPFHK
	MEME-17	6	MANNRA

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	MEME-18	6	DFTEKL
	MEME-19	7	MEREGQE
	MEME-20	6	EYIESJ
	MEME-1	40	TGVIAGALLYIRDDFVGINTVMYLSPTIVSMAGFGANVGA
	MEME-2	29	NGLLITGGQFLAYLINLAFTKVPGTWRRWM
	MEME-3	50	YIVFYSPGMGTVPWIVNSEIYPLRYRGVCGGIAAVANWVSNLIVAQTFLS
	MEME-4	46	PAJVQFVLMMLALPESPRWLYRKGRKEEAEAILRKIYPAEVEVEEIE
	MEME-5	41	PPVJIVGRVVFVGLGVGMASMTAPLYISEASPARIRGALVST
	MEME-6	19	VGGWFNDRFGRRRLILIAL
	MEME-7	41	TFLJFCGVSVLAFIFVLLVPETKGLQFEEVEQMLERKDYK
	MEME-8	41	CAGGGDKLLPGACLVSNDA SRHACRADRREWYTRGCPSNFG
	MEME-9	29	ECLYLSWSNPYILRLAFSAGIGGLLFGYD
INT_motif	MEME-10	15	WSCTRCLKAASSCGF
	MEME-11	21	SHSPPVSDAETALFGANGTCP
	MEME-12	6	HEFDGN
	MEME-13	6	PWKKFN
	MEME-14	6	NNGNCQ
	MEME-15	15	ALSLVTSGLN AJGSI
	MEME-16	6	MEGGIH
	MEME-17	6	NEPGKN
	MEME-18	25	RASVEEEMAQEGSIGEGGLIGKLRK
	MEME-19	6	DKFEFK
	MEME-20	6	IMAFAP
	MEME-1	41	MPESPRWLVMQGR LADARAVLLRTSDTPAEAEERLAEIKAA
PLT_motif	MEME-2	41	SARGFLTSFPEVFINVGILLGYVS NYAFAGLPVHLGWRVML
	MEME-3	50	KPRRNKYAFACATLASMTSILLGYBJGVMSGAQLFIKEDLGJTDVQVEVL

	MEME-4	50	HFFQQASGIDAVVLYSPRVFKKAGITSBSALLGATVAVGVVKTILFILVAT
	MEME-5	50	FVAFFSIGLGPiAWVYSSEIFPLRLRAQGAALGVAVNRVTSGVVSMTFJS
	MEME-6	50	AGRTSDWJGRRRTVVLAFAFFAGALAMGLAPSYAALMAGRfVAGVGVGF
	MEME-7	29	FFLYAGIAAAAWVFVYTRLPETKGRSLED
	MEME-8	30	FLLDRVGRRPLLLASTGGMAVSLVGLGVTL
	MEME-9	15	ALMVAPVYTAEISPA
	MEME-10	15	GGGGVWKELLRPTP
	MEME-11	15	GIGAVPPVFLAAGVL
	MEME-12	11	GIJNVYSLLGS
	MEME-13	11	VRRILLAVLGL
	MEME-14	15	GIPHDLGDVVAVPK
	MEME-15	15	HHPDAKIPWAVALCI
	MEME-16	8	DAITMPGC
	MEME-17	21	GGEDVDEDEEDGTPAKEKSTE
	MEME-18	31	HPDGLVYLGILGSGVYSMGFLRIPAHHAWR
	MEME-19	8	SKAITIGG
	MEME-20	18	KVFQQASGKGSILQYVQQ
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	MEME-1	50	PLYISEVSPTEIRGTLGSLVQIATCLGIIVALLJGJPVEGBPRWWRTMFW
	MEME-2	36	AFFGSLVASSLMDKfGRKRLILSYLPMAIGAFLSA
	MEME-3	49	HWIVNFFVGLYFLELVNKFVGAVYAGFASVCVLAAlFVRGHVVETKGR
	MEME-4	50	KALPHVCVASLASFLFGYHJGVVNGPLEDIAKDLGFAGNPLLQGLVVSIF
SGB/pGlcT_motif	MEME-5	41	WSDLFYGRHWKVVFIGASLFFLQQLAGINAVLYFSSSVFRS
	MEME-6	40	GMQFAPESPRWLYKVGRIdeaEKVVEKLWGPEHVEEAMYE
	MEME-7	28	YVLSFALGAGPVPGLLLPEIFPSRIRAK
	MEME-8	15	EIEMEPDVETPGKQE
	MEME-9	6	WCGGRR

	MEME-10	11	DSLEEMLFGRF
	MEME-11	11	DPPDPPLEKPZ
	MEME-12	9	NNPCYKRMP
	MEME-13	6	QEIEVM
	MEME-14	6	NJCMGI
	MEME-15	6	GDDGEG
	MEME-16	6	RALPRR
	MEME-17	8	RPRPGPVR
	MEME-18	6	ANRQAL
	MEME-19	11	SFPWDEGVPHS
	MEME-20	6	WPPRLP
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	MEME-1	45	QAVPLYLSEMAPARWRGALNIGFQLFITIGILAAANLINYGTNKIP
	MEME-2	39	SEIFPLEIRSAGQSITVAVNLLTFVIAQAFLSMLCHLK
	MEME-3	39	IPFFQQLTGINVIMFYAPVLFRTVGFSGDASLMSAVITG
	MEME-4	21	VMTAFVALFLPETKGVPIEEM
	MEME-5	29	NNYCKFDSQLLTAFTSSLYLAGLVASLVA
	MEME-6	29	TDRVGRRALFLIGGVQMJAGQVVNGAAVN
	MEME-7	41	SAGGGKDYGGKLTAFVVLTCCLVAASGGLIFGYDIGISGGVT
STP_motif	MEME-8	21	LICVYVAGFAWSWGPLGWLVP
	MEME-9	21	AVWARHWYWKRFVKDDADKHE
	MEME-10	15	GWGWRLSLGLAAVPA
	MEME-11	15	MLIVGRILLGVGVGF
	MEME-12	15	RRJLRRRYRPQLVMA
	MEME-13	21	DVDAEFDDJVAASEEARAVEH
	MEME-14	15	PDEARAVLQRIRGTD

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MEME-15	21	SMDSFLKKFFPSVYRRMKS
MEME-16	11	FGIFFFAGW
MEME-17	21	AVIVVGALLIPDTPSSLVLRG
MEME-18	15	KFGKSGAATMARSYA
MEME-19	11	LVNVFSTLVI
MEME-20	29	TRVFGRKWSMFAGGVAFLAGAAJGGAATB

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