

EcOMT -----MEK GK--LEVG EEMELQ GQAD ICKLMLAF IDSMALKCAV
 Ps7OMT -----MDTAEER-LKQQA EIWEHMF AFVDSMALKCAV
 VvReOMT -----MDLANGV--IS---AELLHAQA HVWNHIFNF IKSMSLKCAI
 MpFlOMT -----MALPNGI--SSK--QELLEQAQHVWNH IYSY INSMSLKCAI
 ObEuOMT -----MALQKVD--ISLSTEQLLQAQVHVWNHMYAFANSMSLKCAI
 Ps6OMT -----METVS-----KIDQONQAKIWKQIYGF AESLVLKCAV
 PsSOMT3 -----MEVVS-----KIDQENQAKIWKQIFGFAESLVLKCAV
 PsN7OMT -----MEVVS-----QIDQENQAI IWKQIYGFSESLLLKCAV
 Cj6OMT -----MEVK-----KDNLSSQAKLWNFIYGF AESLVLKCAV
 Tf6OMT -----MEMIN-----KENLSSQAKLWNFIYGF ADSLVLKSAV
 Ps4'OMT2 -----MG-SLDAKP--AAATQEVSIKDQAQLWNI IYGF ADSLVLRCAV
 Ps4'OMT1 -----MGSSIDAE-----THEVDIKDQAQLWNI IYGYADSLVLRCTV
 Cc4'OMT -----MAFHGK-----DDALDIKAQA HVWKI IYGF ADSLVLRCAV
 Cj4'OMT -----MAFHGK-----DDVLDIKAQA HVWKI IYGF ADSLVLRCAV
 Tf4'OMT -----MAAFQ GK-----DASVDIKAQA HVWKI IYGF ADSLVLRCAV
 PtFlOMT -----MGSVTKIDE--EIREDEEEAQAKVEIWKYIFGF TNMAVLC AI
 TtOMT -----MGSTQNN---HNLTP EEEEEACLHAMQ--LASASVLP MVLKAAI
 TtCaOMT -----MGSTQKN---HNLTP EEEEEACLHAMQ--LASASVLP MVLKAAI
 CaCafOMT -----MDSTN-----QNL TQTEDEAF LFAMQ--LASASVLP MVLKSAL
 ObCafOMT -----MGSATN---TPQINSDEEENFLFAMQ--LASASVLP MVLKSAI
 CbEuOMT -----MGSTGNAEIQI IPTHSSDEEANLFAMQ--LASAAVLP MALKAAI
 CbCafOMT -----MGSTGNAETQLTPHVSDEEANLFAMQ--LASASVLP MVLKAAI
 PsCaOMT -----MGSIRN-----VD--EDIQACRYAME--LASASVPMVLKTAI
 PaCafOMT -----MGSASENS--EMNTKIVNEDEWLLGME-LGNF SCLPMGMKAAI
 AmCafOMT -----MASHDQEAFLAAMQ--IVNSTV DGVLNALI
 CjsOMT MCTSLSELKCPVFSTKRKLLLEFALRTSVDMAAQEGVNYLSGLG-LSRLICLPMALRAAI
 TfsOMT -----MALQEGVNYLSGLG-LSRLICLPMALRAAI
 PsSOMT1 ----MATNGE I FN TYGHN RQTATVTKITASN ESSNGVCYLSETANLGKLCIPMALRAAM
 PsSOMT2 -----MEIHLESQ-----EQEMKYQSQIWNQICGTVDTSVLRCAI
 CjCoOMT -----MDTPN---TFQNDDEIKAQAQVWKHMFGFAETIMLRSTV

EcOMT ELGIPDI I HSHGQP-----ITLSEIINGIPN-LSP--SFDINYLFRIMRLLVRNRVFSAY
 Ps7OMT ELGIPDI I HSHGRP-----VTISEIVDSLKT-NTPSSSPNIDYLTRIMRLLVHKRFLTS-
 VvReOMT QLGIPDI I HNHGKP-----MTLPELVAKLP--VHP---KRSQC VYRLMRILVHSGFLAAQ
 MpFlOMT QLGIPDAIHKHGNP-----ITLSQLADALN--INK---AKSHGLFRLMRILVHSGFFDKV
 ObEuOMT QLGIPDILHKHGRP-----MTLSQLLQSI P--INK---EKTQCFQRLMRALVNSNFFIEE
 Ps6OMT QLEIAETLHNNVVKP-----MSLSELASKLPV-AQP---VNEDRLFRIMRYLVHMELFKID
 PsSOMT3 QLEIAETLHNNVVKP-----MSLSELASKLP--AQP---VNEDRLYRILHFLVHMKLFNKD
 PsN7OMT QCEIAETIHNHGTP-----MSILELA AKLP I--DQP---VNI DRLYRVMRYLVHQKLFNKE
 Cj6OMT QLDLANI I HNSGTS-----MTLSELSSRLP--SQP---VNEDALYRVMRYLVHMKLF TKA
 Tf6OMT QLDLANI I HNHGSP-----MTLSEL SLHLP--SQP---VNQDALYRVLRYLVHMKLF TKS
 Ps4'OMT2 EIGIADI IKNNDGA-----ITLAQLAAKLP--ITN---VSSDYLYRMVRYLVHLNIEQE
 Ps4'OMT1 EIGIADI IKNNNGS-----ITLSELVSKLP--LSN---VNSDNLYRLLRYLVHNLITGQQ
 Cc4'OMT ELGIVDIVDNNNQ P-----MALADLASKLP--VSN---VNC DNLYRILRYLVKMEILRVE
 Cj4'OMT ELGIVDI I DNNNQ P-----MALADLASKLP--VSD---VNC DNLYRILRYLVKMEILRVE
 Tf4'OMT ELGIFDI I DNNNQ P-----IPLADLASKLP--ISN---VNL DNLFRI LR YLVKMELLSYA
 PtFlOMT ELGIADAIENNEGP-----MTLSELSSSLG-----CAPSSLYRIMRFLVHHNIFKEK
 TtOMT ELDVLEI IAKAGQG---AYVAPTEIASQLS--TSNS--QAPI I LDRILRLLASYKVLTCN
 TtCaOMT ELDVLEI IAKAGQG---AYVAPTEIASQLS--TSNS--QAPI I LDRVLRLLASYKVLTCN
 CaCafOMT ELDLLEIMAKAGPG---AAISPSELAAQLP--TKNP--EAPIMLDRMLRLLATYSV LNCT
 ObCafOMT ELDLLELIKSGAG---AFVSPVDLAAQLP--TTNP--DAHVMLDRILRLLTSYAILECR
 CbEuOMT ELDVLEIMAKSVPP-SG-YISP AEIAAQLP--TTNP--EAPVMLDRVLRLLASYSVVTYT
 CbCafOMT ELDVLEIMAKSIPHGSGAYISP AEIAAQLP--TTNP--DAPVMLDRVLRLLASYSVVTCS
 PsCaOMT ELDILEI I KKP GPG---TQISVSEIVSQIQN-LKNP--DAPVMLDRMLRLLASYNILTCS
 PaCafOMT ELDVLQI IANAGNG---VQLSPRQIVAHIP--TTNP--DAAITLDRILRVLASHSVLSCS
 AmCafOMT ELNVFDI I MKKVGLD---GYLHPDEIALNLP--AKNL--EASDMLDRMLRLLATHSIIKCK
 CjsOMT ELNVFEI I SQAGPD---AQLSPSDIVAKIP--TKNP--SAAISLDRILRMLGASSILSVS
 TfsOMT ELNVFEI I FQAGPE---AQLSPA EIVAKIP--TKNP--NAAIALDRILRMLGASSILSVT
 PsSOMT1 ELNVFQLISKFGTD---AKVSASEIASKMPNAKNNP--EAAMYLDRI LRLLGASSILSVS
 PsSOMT2 QLGIFDAIHNNGK P-----MITLTELSSIVSSPSSSS--IEPCNLYR LVRYLSQMDLISIG
 CjCoOMT SLGIPDI I HNNG-P-----VTLSQLVTHLP--LKS---TSIDRFHFMRYLVHMQLFTIS

EcOMT EPDLKDGSSG-----TKTLYGLTPSSKWLVDK--SKISLAPLVLAEHNHPWLLDPWHYLK
Ps7OMT --ELHQESN-----QLLYNLTRSSKWLKLD--SKFNLSPLVLWETNPILLKPWQYLK
VvReOMT RVQ-----QGKEEGYVLTDAARLLMD--DSLSIRPLVLAMLDPIILTKPWHYLSA
MpFlOMT KVKVKEGED--EEEEEDAYSLTPASRLLRS--EPLSVAFPALAMSDPVYETETWHHLE
ObEuOMT NNS-----NNQEVCYWLTASCLLKE--APLTVTPLVQVLDPTFTNPWHHMSE
Ps6OMT AT-----TQKYSLAPPAKYLLRG--WEKSMVDSILCINDKDFLAPWHHLGD
PsSOMT3 AT-----TQKYSLAPPAKYLLK--WEKSMVPSILSVTDKDFMTAPWNHLGD
PsN7OMT VISTLNGG----TVQVTEKYWLAPPAKYLRG--SQQSMVPSVLGIIDEDMFAPWHHLK
Cj6OMT SIDG-----ELRYGLAPPAKYLVK--WDKCMVGSILAITDKDFMAPWHYLK
Tf6OMT SIDG-----ELRYGLAPPAKYLVK--WDKCMGAILTITDKDFMAPWHYLK
Ps4'OMT2 TCNGGV-----EKVYSLKPVGTLRLD--AERSMVPMLIGMTQKDFMVSWHFMKE
Ps4'OMT1 TCAAGV-----DRVYSLKPVGTLRLK--SERSMAPVILGLSQKDFLFWVNFVKE
Cc4'OMT KSDDG-----EKYALEPIATLLSRN--AKRSMVPMILIGMTQKDFMTPWHSMKD
Cj4'OMT KSDDG-----QKKYALEPIATLLSRN--AKRSMVPMILIGMTQKDFMTPWHSMKD
Tf4'OMT ADD-----KYALEPIAKLVLRN--EKRSMPVMLIGMTQKDFMTPWHSMKD
PtFlOMT PSSQLG-----TTVVYVGLTNSRLLK--GEKSMVDLLLESHPMAPWHHLSS
TtOMT LRTLE-----DGGVERLYGLAPVCKFLVKN--EDGVSMAPLVLMNQDKVLMESWYHLK
TtCaOMT LRTLE-----DGGVERLYGLAPVCKFLVKN--EDGVSIAPLVLMNQDKVLMESWYHLK
CaCafOMT LRTLPL-----DGRVERLYSLAPVCKLTKN--ADGVSAPLMLLMNQDKVLMESWYHLTD
ObCafOMT LKTLPL-----DGGVERLYGLAPVCKFLTKN--EDGVSMAPLTLMNQDKVLMESWYHLSD
CbEuOMT LRELPL-----SGKVERLYGLAPVCKFLTKN--EDGVS LAPFLLTATDKVLEPWFYKLD
CbCafOMT LRELPL-----DGKVERLYGLAPVCKFLTKN--EDGVS LAPCLMNQDKVLMESWYHLK
PsCaOMT LKDGGN-----DDKVERLYGLAPVCKFLTKN--EAGCSMSALLLMNQDKVLMESWYHLK
PaCafOMT VTTDE-----NGKAERLYGLTPLCKYLK--QDGVSLAPLVLMNQDKVLMDSWYHLK
AmCafOMT LVKRSGG----THRLTRSYGLTISISQYFVQA--KDGPC LAPYIRLIHHKEMQRSWSKVVD
CjsOMT TTKS-----GRVYGLNEESRCLVAS--EDKVSVPMLLFTSDKAVVESFYNIK
TfsOMT TMKD-----GRVYGLTEESRCLVAD--KNGVSVPMLLFTSDKAVVESFYNIK
PsSOMT1 TTKKSINRGDDVVVHEKLYGLTNSCCLVPRQEDGVSLVEELLFTSDKVVVDSFFKLK
PsSOMT2 ECLN-----EATVSLTGTSKLLLRN--QEKSLIDWVLAIXCEMMVVVWHELSS
CjCoOMT TDQITK-----EDKYELTPASKLLVHG--HQKSLAPYVMLQTHPEEFSVWVSHVIN

EcOMT CVQEGG----FAFAKAHG--SEIWKFGSENPENKLFVSGMACSSTLVVDAILD--NYHEGF
Ps7OMT CAQEKs----SPFERAHG--CEIWDLALADPKFNNFLNGAMQCSTTTIINEMLL--EYKDFG
VvReOMT WFQNDd---PTPFHTAHE--RSFWDYAGHEPQLNNSFNEAMASDARLLTSVLLK--EGQGVF
MpFlOMT WFRNDA---VAAFDTKYG--MTFPEYAVADDRLNVLVFNEMACDAGFVNSILTT--ECREIF
ObEuOMT WFTHEKH--ATQFEAANG--CTFWEKLANEPSKGRFFDEAMSCDSRLIAHVFTK--DYKHVI
Ps6OMT GLTG----NCDAFEKALG--KSIWVYMSNPENKQLFNAAMACDTRLVTSALAN--ECKSIF
PsSOMT3 GLTG----NCNAFEKALG--KGIWVYMSNPENKQLFNEGMACDTRLFASALVN--ECKSIF
PsN7OMT SLTG----ECNIFETALG--KSIWVYMSNPENQISNGAMAFDSGLVTSHLVN--ECKSVF
Cj6OMT GLS--G--ESGTAFKALG--TNIWGYMAEHPEKNQLFNEAMANDSRLIMSALVK--ECGNIF
Tf6OMT GILNDG--STSTAFKALG--TNIWGYMAEHPEKNQLFNEGMANDTRLIMSALVK--ECSSMF
Ps4'OMT2 GLGNGST---TAFEKMG--MDIWKYLEGNPDQSQLFNEGMAGETRLLTKTLIE--DCRDTF
Ps4'OMT1 GLGTGST---TAFEKMG--MDMWKYLEGNPDQSQLFNEGMAGETRLLTKTLIE--DCRDTF
Cc4'OMT GLSDNG----TAFEKMG--MTIWEYLEGHPDQSQLFNEGMAGETRLLTSSLIS--GSRDMF
Cj4'OMT GLSDNG----TAFEKMG--MTIWEYLEGHPDQSQLFNEGMAGETRLLTSSLIS--GSRDMF
Tf4'OMT GLTDNGV---TAFEKMG--MTIWEYLEGHPDQSQLFNEGMAGETRLLTSSLIS--GSKDMF
PtFlOMT RVLNDN---NSPFEGAHG--DDIWKYALANPVHSKLIDDAMACDAKLVVPEIVE--GFPEVF
TtOMT AVLD----GGIPFNKAYG--MTAFEYHGTDPRFNKVFNRGMSDHSTITMKKLE--LYKGF
TtCaOMT AVLD----GGIPFNKAYG--MTAFEYHGTDPRFNKVFNRGMADHSTITMKKLE--LYKGF
CaCafOMT AVLD----GGVFPFNKAYG--MTAFEYHGTDPRFNKVFNRGMSDHSTITMKKILE--DYKGF
ObCafOMT AVVD----GGIPFNKAYG--MTAFEYHGTDPRFNKVFNRGMSNHSTITMKKILE--TYTGFD
CbEuOMT AILE----GGIPFNKAYG--MNEFDYHGTDHRFNKVFNRGMSNHSTITMKKILE--MYNGFE
CbCafOMT AILD----GGIPFNKAYG--MTAFEYHGTDPRFNKVFNRGMSDHSTITMKKIFE--MYTGFE
PsCaOMT AILD----GGIPFNKAYG--VHAFYHGKDLRFNKFVNRGMSDHTTITMKKILE--TYKGF
PaCafOMT AVLE----GSQPFTKAHG--MNAFEYPAKQRFNRFNRGMSSEHSTMLMNLID--TYQGF
AmCafOMT ATIE----GGVFPNKAHGKNIFFEYLEKDKDLAELLSQAMDKSIATSMNILLQ--MYKGLE
CjsOMT VVLEE---GVIPFDRTHG--MDFFQYAGKEERVNKSFNQAMGAGSTIAFDEVFK--VYKGF
TfsOMT VVLEE---GVIPFDRTHG--MDFFAYAGKEQSVNKSFNQAMGAGSTIAFDEVFK--VYKGF
PsSOMT1 VVEEK---DSVPFEVAHG--AKIFEYAATEPRMNQVFNDGMVAFSIVVFEAVFR--FYDGF
PsSOMT2 SVSTPAD--EPPIFQKVHG--KNALELAGEFPEWNDLINNAMTSDTSVTKPALIQ--GCGKIL
CjCoOMT VLDG----KKPYWESND--TSMYEKTEGDP EINEILNDAMTSHSTFM L PALVSLMKENV

EcOMT GDLE-SIVDVGGAIGTLNEIVKKYPHIRGTNFDLPHVVAEALENPGVAHVGGDMFVEIP
 Ps7OMT SGIAGSLVDVGGGTGSI IAEIVKAHPHIQGINFDLPHVVATAAEFPGVKHVGGDMFVDIP
 VvReOMT -AGLNSLVDVGGGTGKVAKAIANAFPHLNCTVLDLPHVVAGLQGSKNLNYFAGDMFEAIP
 MpFLOMT -DGLSMVDVGGGTGATAKGI AAFPGMECTVLDLPHVVGGLKGSNLSFVSGDMFDFIP
 ObEuOMT -EGIRTLVDVGGGNGTMAKAI VEAMPTIKCTVIDLPHVVAGLESTDNLNYIGGDMFQSIIP
 Ps6OMT SDGISTLVDVGGGTGTAVKAI SKAFPDIKCTIYDLPHVIADSP EIPNITKISGDMFKSIP
 PsSOMT3 SDGINTLAGVGRGTGTAVKAI SKAFPDIKCTIHDLP EXT SKN-----SKI XRDVFKSVP
 PsN7OMT GDEIKTLVDVGGGTGTALRAI SKAFPNIKCTLFDLPHVIADSP EIPPTITKVSGDMFKSIP
 Cj6OMT -NGITTLDVVDVGGGTGTAVRNIA NAFPHIKCTVYDLPHVIADSPGYSEVHC VAGDMFKFIP
 Tf6OMT -DGITTIVDVGGGTGTAVRNIA KAFPHIKCTVYDLPHVIADSPGYTEINSIQGDMFKYIP
 Ps4'OMT2 -QGLDSLVDIGGGNGTTIKAI YEAFPHIKCTLYDLPHVVANSHDL PNI EKVP GDMFKSVP
 Ps4'OMT1 -QGMDSLVDVGGGNGTTIKAI HEAFPHIKCTLYDLPHVIANSDDHPN ILKVP GDMFMSVP
 Cc4'OMT -QGIDSLVDVGGGNGTTVKAI SDAFPHIKCTLFDLPHVIANSYDHPN IERIGGDMFKSVP
 Cj4'OMT -QGIDSLVDVGGGNGTTVKAI SDAFPHIKCTLFDLPHVIANSYDLP NIERIGGDMFKSVP
 Tf4'OMT -QSIDSLVDVGGGNGTTIKAI SVAFPHIKCTLFDLPHVIANSYDHPN IERIGGDMFKGMP
 PtFLOMT -DGVKTLVDVGGGNGTTLQMLVAKYPSIKGINFDLPHVSVASESEGVGDFEVSVP
 TtOMT --GLKSVVDVGGGTGATVNMIVTKHPTIKGINFDLPHVIEDAPAYPGVEHIGGDMFVCVP
 TtCaOMT --GLKSVVDVGGGTGATINMIVTKHPTIKGINFYLP HVIDDAPAYPGVEHIGGDMFVSVP
 CaCaOMT --GLNSIVDVGGGTGATVNMIVSKYPSIKGINFDLPHVIEDAPAYPGVEHVGGDMFVSVP
 ObCaOMT --GLKTVVDVGGGTGATLNMIVSKYPSIKGINFDLPHVIEDAPSYPGVEHVGGDMFVSVP
 CbEuOMT --GLTTIVDVGGGTGAVASMI VAKYPSINAINFDLPHVIQDAPAFSGVEHLGGDMFDGVP
 CbCaOMT --ALNTIVDVGGGTGAVLSMI VAKYPSIKGINFDLPHVIEDAPI YPGVEHVGGDMFVSVP
 PsCaOMT --GLNSIVDVGGVGATVSMI ISKYPTIQGINFDLPHVIQDAPSFPGIKHVGGDMFASVP
 PaCaOMT --EVQELVDVGGVGSTLNLIVSRYPHISGINFDMPHVVT DAPHYPAVKHVGGDMFDSVP
 AmCaOMT --GVQEVVDVGGGAHGATLSCIVSMNPHLKGINFDLPHVVK NAPSLPGIVHVGGDMFESVP
 CjSOMT --NLKELVDVGGGIGTSLSNIVAKHPHIRGINFELPHVIGDAPDYPGVEHVPGDMFEGVP
 TfSOMT --DLKELVNVGGGIGTSLSNIFKYPHIKGINFELPHVIADAPNYPGVEH IAGNMFEGVP
 PsSOMT1 --DMKELLDVGGGIGT SVKIVAKYPLIRGVNFDLPHVIVSAPQYPGVEHVAGDMFEVVP
 PsSOMT2 N-GVTSLIDVGGGHGATMAYIVEAFPHIKGAVIDLPHVVEAAPERPGVEFISGDIFKSI S
 CjCoOMT LDGVASIVDVGGNSGVVAKGIVDAFPHVKCSVMDLNHVI ERV IKNPKLDYVAGDMF TSI P

EcOMT SADAVILKWVLHDWNEDECVKILKNCNKAISNK----GKLIIECVLKP D-GEGLFDGLG
 Ps7OMT EADAVIMKWILHDWSDEDC TILKNCYRAIRKKK--NGKVIIVDCVLRPD-GNDFDKMG
 VvReOMT PADAILLKWILHDWSDEECVKILKRCREAI PSKENGK-KVIIIDMIMMKNQGDYKSTETQ
 MpFLOMT HADAI FMKILHDWNEDECVKILKCKEAI SRSNNSCRK IILVEIVMEDEKETHEATETK
 ObEuOMT SADAILLKSIIHDWDDVEGLKILKCKDAV---VMGG-KVIIIDVVVGNHDI DEVLEDQ
 Ps6OMT SADAI FMKILHDWNEDEC IQILKRCKEALP----KVGKVIIVDVVIDMD-STHPYAKIR
 PsSOMT3 SADAI FMKSI LHENWNEEC IQILKRCKEAIP----KGGKVI IADVVIMD-STHPYKSR
 PsN7OMT SADAI FMKNILHDWNEDEC IQILKRC KD VVS----AGGKLIMVEMVLEDE-SFHPYSKLR
 Cj6OMT KADAI MMKILHDWDDKECIEILKRCKEAVPV---KGGKVI IVDIVLVNQ-SEHPYTKMR
 Tf6OMT NADAI MMKILHDWDDKECIEILKRC KD AVPR---DGGKVI IIDIILDVK-SEHPYTKMR
 Ps4'OMT2 SAQA ILLKLILHDWTD EECVNILKCKEAI PK---ETGKVI IVDVALEEE-SNHELTKR
 Ps4'OMT1 SAQV LLLKVLHDWTD EHCRLKLNCHKALP---ETGKVI IVDVALEEE-SEHELTSAR
 Cc4'OMT SAQA ILLKLILHDWNEDESIKILKQCRNAVPK---DGGKVI IVDVALDEE-SDHELSTR
 Cj4'OMT SAQA ILLKLILHDWNEDESIKILKQCRNAVPK---DGGKVI IVDVALDEE-SDHELSTR
 Tf4'OMT SAQA ILLKLILHDWNEDESIKILKQCRKAVPK---DGGKVI IVDVALDEE-SDHELSTR
 PtFLOMT KADAAFLMWVLHDWNEEC IQILKNCKEAIQS---DKGKVI IVEAVVGEE-KGDKLEFVR
 TtOMT KGDAIFMKWILHDWSDEHSVKFLKNCYESIP----ADGKVIDVESILPVPETNLANAC
 TtCaOMT KGDAIFMKWILHDWSDEHSVKFLKNCYESIP----ADGKVI IVECILPVYPETNLANAC
 CaCaOMT KADAI FMKWICHWSDEHCLKFLKNCYEALP----ANGKVLVAECILPETPDTSAATKNA
 ObCaOMT KGDAIFMKWICHWSDEHCVKFLKNCYDALP----QNGKVI LAECVLP EAPDTGLATKNV
 CbEuOMT KGDAIFIKWICHWSDEHCLKLLKNCY AALP----DHGKVI IVAEYILPPSPDPSIATKVV
 CbCaOMT KGDAIFMKWICHWSDEHCLKFLKNCY AALP----EHGKVI IVAECILPLSPDPSLATKGV
 PsCaOMT NADAI FMKWILHDWSDEHSVKILKNCYDALP----KNGKVI IVECI IPEVSDSSVAGHV
 PaCaOMT TGQAIFMKWILHDWSDHCRKLLKNCHEALP----EKGKVI IVDVITILPVAE TSPYARQG
 AmCaOMT RGDVILLQRLLHDWTD EESVKILKTCH EALP----DHGKVVI IEMMPAELP ENDVQAKNI
 CjSOMT NAQNILLKWVLHDWDDRSIKILKNCWKALP----ENGTVIVIEFVLPQVLGNNAESFNA
 TfSOMT NAQNILLKWVLHDWDDERSIKILQNCWKALP----EGGTVIVVEFVLPQILGNNAESFNA
 PsSOMT1 KGQNMLLKWVLHDWGDERCVKLLKNCWNSLP----VGGKVLII EFVLPNELGNNAESFNA
 PsSOMT2 NADAVLLKYVLHNWEDTECVNLLKRCKEAVP---ADKGV IIMDLVIDDD-DNSILTOAK
 CjCoOMT NADAILLKSTLHNYEDDDCIKILNIAKEALPS---TGGKVI IVEIVVDTE-NLPLFTSAR

```

EcOMT      LAFDLLMIAHSSGGRERTEAEWKLLKAGGFSR-YKITPIK---GIPSIIEAYPDN-----
Ps7OMT     LIFDVLMMAHTTAGKERTAEWKILLNAGFPR-YNVIRTP---AFPCIIEAFPE-----
VvReOMT    LFFDMTMMIFA-PGRERDENEWKLFLDAGFSH-YKITPIL---GLRSLIEVYP-----
MpFlOMT    LFFDMQMLAII-TGKERSEKEWGLFFDAGFTN-YKITRVL---GLRSLIEVFP-----
ObEuOMT    LHFDMAMMCYF-NAKERTMSEWEKLIYDAGFKS-YKLTPAF---GVRSLIEAYP-----
Ps6OMT     LTLDDLMMMLNT-GGKERTKEEWKTLFDAAGFAS-HKVTQIS---AVQSVIEAYPY-----
PsSOMT3    LAMDLAMMLHT-GGKERTTEEDWKKLIDAAGFAS-CKITKLS---ALQSVIEAYPH-----
PsN7OMT    LTSDIDMMVNN-GGKERTKEWEKLFDAAGFAS-CKFTQMSVGFAAQSIIEVY-----
Cj6OMT     LTLDDLMMMLNT-GGKERTEEEWKLIHDAGYKG-HKITQIT---AVQSVIEAYPY-----
Tf6OMT     LTLDDLMMMLNT-GGKERTEEEWKLIHDAGYKG-YKITHIS---AVQSVIEAYPY-----
Ps4'OMT2   LILDIDMLVNT-GGRERTAADDWENLLKAGFRS-HKIRPIR---AIQSVIEAFP-----
Ps4'OMT1   LILDIDMLVNT-GGRERTAEDWENLLKAGFRS-HKIRPIR---AIQSVIEAFP-----
Cc4'OMT    LILDIDMLVNT-GGKERTKEVWEKIVKSAGFSG-CKIRHIA---AIQSVIEVFP-----
Cj4'OMT    LILDIDMLVNT-GGKERTKEVWEKIVKSAGFSG-CKIRHIA---AIQSVIEVFP-----
Tf4'OMT    LILDIDMLVNT-GGKERTKEDWEKLVKAGFSG-CKIRHIA---AIQSVIEVFP-----
PtFlOMT    LMLDMVMSHTDAGKERTSEWGYVLKEAGFSS-YTIKPIR---AVQSVIVASP-----
TtOMT      FQLDNIMLAHNPPGGKERTKDFEALS VKAGFTG-FKVVCGAFG--SW-VMEFCK-----
TtCaOMT    FQLDNIMLAHNPPGGKERTKDFEALS AKAGFTG-FKIICGAFG--SW-VMEFCK-----
CaCaOMT    VHVDIVMLAHNPPGGKERTKDFEALAKAGFTG-FRRACCAYQ--TW-VMEFHK-----
ObCaOMT    VHIDIVMLAHNPPGGKERTKEFQGLAKAAGFKQ-FNKACCAYN--TW-IMELLK-----
CbEuOMT    IHTDALMLAYNPPGGKERTKEFQALAMASGFRG-FKVASCAN--TY-VMEFLKTA-----
CbCaOMT    IHIDAIMLAHNPPGGKERTKEFEALAIAGAFKG-FKVACCAFN--TY-VMEFLKTA-----
PsCaOMT    FHLDNIMLAHNPPGGKERSLKQFENLAKDTGFTD-FQVVC SAYD--TY-VMEFYKN-----
PaCaOMT    FHIDLLMLAYNPPGGKERTQEFQDLAKEAGFAGGVKPVCCANG--MW-VMEFHK-----
AmCaOMT    SQVDIRMLIYTHGGRERTAEFQMLGKEAGFAS-SKFICGADL--YG-VVELYKKM-----
CjSOMT     LTPDLLMMALNPPGGKERTTIEFDGLAKAAGFAE-TKFFPISQG--LH-VMEFHKINC----
TfSOMT     LTPDLLMMALNPPGGKERTTIEFDGLAKAAGFAE-TKFFPISQG--LH-VMEFHKATAGVAS
PsSOMT1    LIPDLLLMLALNPPGGKERTISEYDDLGAAGFIK-TIPIPI SNG--LH-VIEFHK-----
PsSOMT2    LSLDLTVMNHG-GGRERTKEDWRNLIEMSGFSR-HEIIPIS---AMPSIIVAYP-----
CjCoOMT    LSMGMDMMLMS--GKERTKKEWEDLLRKANFTS-HQVIPIM---AIESIIVAYS-----

```

Supplemental Figure 1. Amino acid sequence alignment of opium poppy SOMT1, SOMT2, and SOMT3 with selected *O*-methyltransferases from different plant species. The alignment was used to construct the phylogenetic tree in Figure 3. Dots represent gaps introduced into sequences to maximize the alignment.