

Table S2 Sequences of diptera CncC for the phylogenetic analysis.

>*Bactrocera dorsalis*

MGLPASELDVFLNSENFDQQRSVWEQNLADLRDFGDLAVNNPYAGLPLKDEP
HNNTYIDVNLDMFFPSFASAVAGGVAVKEETVGAGALNDTFPEPADIASIKTEQ
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QLDLFKEPSFEGKDGDDAGDIDDEWAGIPFTVDNETGEYIRLPLDEILNDVLQ
LAEFGNINNECSNDSVASTSKAAAAKTNNNNNNNDKTKTETGEDELNENKN
VSAIISNGKDEDLAKKTLGTITDGTTEEHDKTEEDYIDDFDLSSLSEIEVNSLPS
PLFDLDDEAREELADFDIMLQSAGAPSPFHHHSHQRGAGMQGYVGGGAN
SAFHRQAGGFHHGHHQGRMSLSRGVSMEQRLQDIASFFNPISSMGVVGGVSD
MPPYPHYPTHYPSYQGAAGIPAPPQHAQYPPPPPHHHSHHAMLHANATLGDI
CPTQPHYGHNLGSAVTSSMHLTNSSHEADAGAAASAGAAGGNVGGAYKMEH
DMMYYTNSSSDMNHTTEGFINSILNDEDLHLMDMNDSTFCRMVDVNNSTSN
SSVLGGSAGLSNGHASAGGSSATGSSTNGLAMNGAGATNSALAGGMTADLL
GSGAGGTSASGDRLDASSDSAVSSMGSERVPSLSDGEWGEGSDSAQDYHQG
KYGRPYDYSYNNNNNNRMNDGTRQPPVAQKKHQMFGRFLNEQPDLGAVPT
TADNGSNIGVVPPTGTNSLLNIGPAQSIKYEYAYPTVPGLQPGGAGGALNAE
GAIGPVLSNKEQQAYDLKYGPAVAGAMGGYTLDFAQRPPRTPHEIVQHNHTY
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DIINLPMDEFNERLSKYDLTENQLSLIRDIRRGKNKVAAQNCRKRLDQILSL
EDEVKEVRRRKEQLHSDHDSLNLERKRISNKFAALHRHIFQYLRDPEGNPCST
SEYTLQQAADGSIYLLRKSDATNGSGNISNSSSTSSSSSGSGSVSTLLSHNGMS
PQQQQQQQQHAMLGTATHLQQHHHHHNAQAPQQQQQLSHMHTQQVQQA
QQQQQQQQQRQHSAAHAHHHQTHQKD

>*Drosophila melanogaster* (NP_732833.1)

MISNKSYAMKMLQLALALSLLHYNPDYLLHRWDSQLELGTHGDGWELEM
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YDYNDLSLQTSPYANLPLKDGQPQPSNSSHLDSLAAALLHGFTGGSGAPLSTA
ALNDSTPHPRNLGSVTNNSAGRSDDGEESLYLGRLFGEDEDEDYEGELIGGVA
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DIEKLKALEELQQDKDKNNENQLEDITNEWNGIPFTIDNETGEYIRLPLDELLN
DVLKLSEFPLQDDLSNDPVASTSQAAAAFNENQAQRIVSETGEDLLSGEGISSK
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QANYGGGVGVGVGVGVGVGS GTGSAFQRQPAAGGFHHGHHQGRMPRLNRS
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DEDLHLMDMNESFCRMVDNSTSNSSSVLGLPSSGHVSNNGSGSSAQLGAGNP

HGNQANGASGGVGSMSGSAVGAGATGMTADLLASGGAGAQQGADRLDASS
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DLVQLNHTYSLPQGSGLPRPQARDKKPLVATKTASKGASAGNSSSVGGNSSN
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GKNKVAAQNCRKRLDQILTLEDEVNAVVKRKTQLNQDRDHLESERKRISNK
FAMLHRHVFQYLRDPEGNPCSPADYSLQQAADGSVYLLPREKSEGNNTATAA
SNAVSSASGGS LN GHVPTQAPMHS HQSHGMQAQHVVGGMSQQQQQQSRLP
PHLQQQHHLQSQQQQPGGQQQQQHRKE

>*Bactrocera latifrons* (XP_018803055.1)

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VSAIISNGKDEDLAKKTLDTTTDGTTKQE QDSTEKDYIEDFDLSLSEIEVYSLP
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LGDICPTQPHYGHNLGSAVTSSMHLTNSSHEADAGAAASAGAAGGNVGAYK
MEHDMMYTNNSSSDMNHTTDGFIN SILNDEDLHLMMDMND SFCRMVDVNS
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GATPTTADNGSNIGVVPPTGTNSLLNIGPAQSIKYEYEAYPTVPGLQPGGAGGA
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>*Bactrocera oleae* (XP_036217502.1)

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IKTEQLDKEEQELALENEVATSSSSSDEAAPKIKKEKESGEHNTQAALSEEVDL
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>*Zeugodacus cucurbitae* (XP_011186373.1)

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RDPEGNPCTTSEYTLQQAADGSIYLLRKSDAASGSGNISNSSSTSSSSSSSSSSNV
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>*Bactrocera tryoni* (XP_039957973.1)

MCWFEPILKGFVKRSRNLINSTKSKYYTYTNRGHTYVLKRKPSFEGKDGND
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TEGFINSILNDEDLHLMMDNDSFCRMVDVNNSTSNSSVLGGGAGLSNGHAS
GGGGSATGSSTNGLAMNGAGATNSALAGGMTADLLGSGAGGTSAGGDRLD
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NSQLNIGPAQSIKYEYEAYPTVPGLQPGGAGGALNAEGAIGPVLSNKEQQAYD
LKYGPAVAGAMGGYTLDFAQRPPRTPHEIVQHNHTY TLPQGTGSMRPQARD
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DLTENQLSLIRDIRRRGKNKVAAQNCRRKRLDQILSLEDEVKEVRRRKEQLHS
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HLQQHHHHHHHAQAPQQQQQLSHIHTQQVQQGQQQQQQQQQRQHS AHAHA
HHHQT HQKD

>*Ceratitis capitata* (XP_012159075.1)

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TYIDVNLDMFLPSFASAAAAA AANDVKQENVAAGALNDTFPEPADVASIK
TEQIDKEEAEEQEFVLNNEASSSGVSSAETVFTTTPTSQA AIIKKEPIESSGDDE
AQTEMEEVLDLSPFFSQLDIMKEESEIIDVLWKQDV DLGYSLTPAHLINTTGNN
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SMEQRLQDIASFFNPISGMGVVGGVSDMPPYPHYPTHYPYSYQSAAGIPAPPQ
HAQYPPPPPPPHPHPHSHHAMLHANATLGDICTPTQPHYGHNLGSAVTSSMH
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>*Musca domestica* (XP_011293624.1)

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SILSPLFDLDDEAKEELADLSMMLHSSAPFAPHHHPHHPHHRGAAGGVVGG
AQNYGSVNSAFHRQPSSGGFHHGHHQGRMPLSRGVSMEQRLQDIASLFNPIP
SMGVVGGVSEMSPYPHYPTHPTYQSAPQHAQYPPPPPHPHHHHHAAAAAM
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NNSTSNSSVLGLPTGTGHASGAASGGSTAGSTTSGISMSAASNVAASAGAPV
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TLPQGTGPLPRPQQRDKKLSTSSSTKSAKSSHNSGSGGEEETYMTRDEKRAR
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RKLDQILSLEDEVKQVRRRKDELNAQRDLFTERKRVSNKFSALHRHIFQYLR
DPEGNPCSPSEYSLQQAADGSIYLLPRDAANKNDTNSAVGLLNGGAGIGSPLN
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HHHQHHHHQQQHNQTSQPQTTHAHGHHTTTHGGSQQQQPQKD

>*Teleopsis dalmanni* (XP_037948765.1)

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>*Sarcophaga bullata* (TMW53478.1)

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>*Lucilia cuprina* (XP_046805387.1)

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>*Glossina fuscipes* (XP_037893857.1)

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>*Rhagoletis zephyria* (XP_017484642.1)

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>*Drosophila elegans* (XP_017131181.1)

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[illegible]

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>*Aedes aegypti* (XP_021693907.1)

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