

P. jirovecii

```
aactgtgcat gcattgtcct ttagacaaat atatacaatt ttgattaat tcccaaaata
ttgacacgta cgtaacagaa aatctgttta tatatgttaa aactaattta agggttttat
<....matMc...<<
l q a h m
-91
-14
-7
tgtttttaaa atgcttcaaa taaatcccag gatcccttgc cttgaaatcc ctttataaag
acaaaaattt tacgaagttt atttagggtc ctagggaacg gaacttttagg gaaatatttc
-61
-96
ataccaaatg cttccagtat gttttgttct gataattttg ctaataacgg cactccaact
tatggtttac gaaggtcata caaaacaaga ctattaaaac gattattgcc gtgaggttga
>>.....matMi.....>
m l p v c f v l i i l l i t a l q
```

P. jirovecii

```
gaaaatttcg agtaaattga atgaattaga aggcaaaaag tatattttta tgttttttgg
cttttaaagc tcatttaact tacttaactc tccgtttttc atataaaaat acaaaaaacc
-108
-16
ggtttttgagt gagttttttg ggtaaaaaaa agtaaaaaat atttctaaca aaaaagtaga
ccaaaaactca ctcaaaaaac ccattttttt tcatttttta taaagattgt tttttcatct
aaatgttgtc tattgggtca ttagatgttt catgtatgga ttcagtgaat gaaaataggt
tttacaacag ataaccagat aatctacaaa gtacatacct aagtcactta cttttatcca
>>.....matPi.....>
m l s i g s l d v s c m d s v n e n r
```

P. carinii

```
aatattcaag atgtgcatat ggcattgcttg ccccttcacc ctttaccat gtattcccta
ttataagttc tacacgtata ccgtacgaac ggggaagtgg gaaatgggta cataagggat
<.....matMc.....<<
l y e l h a y p m
ctgattttat gtgtattttt taagatatct ttattttgag ggccttgcat tagtcagtga
gactaaaata cacataaaaa attctataga aataaaactc gcggaacgta atcagtcact
-38
-63
aaaaaaatag acctttacc cttcttccctt aagctttaat aagggtgcca cttttgttag
ttttttatc tggaatggg aagaagaa ttcgaaatta ttcccacggt ggaacaatc
ccttctctaa agtaaaaaa ccaaatatct tctttatggt tcttgatgta ggcagaaaaa
ggaagagatt tcattttatt ggtttataga agaaatacaa agaactacat ccgtctttt
agatgcccaa agcacttagg ctttcttttt tgtacagcca ccttagattt ttttatccaa
tctacgggtt tctgtgaatcc gaaagaaaaa acatgtcggg ggaatctaaa aaaataggtt
-20
-6
tctcaattaa ttgcattcct taaagcaata tatgaatggt ctaaacattt tgtataagat
agagttaatt aacgtaagaa atttcgttat atacttaca gaattggtaa acatattcta
>>.....matMi.....>
m n v l n h l y k
```

P. carinii

```
tcagcgccgt gttcgacata ttaatgggta taattgacgg ggaattataa ggtgttttgg
agtcgcggca caagctgtat aattaccat ataaactgcc ccttaatat ccacaaaaacc
-52
-29
aaaagaggaa ttatacagga atttataag aaaaatag agaaaatata aaggaattgc
ttttctcctt aatatgtcct taaatattc tttttatc tcttttat ttccttaacg
tatagggaaa agagagtata atatgtcaga ggaggtatat gatgtttttt gtggggaat
atatccctt tctctcatat tatacagtct cctccatata ctacaaaaa cacccttta
>>.....matPi.....>
m s e e v y d v f c g e
```

Fig. S1