## a) Biology

Ser

His

TCC CAT AAG

TCC CA- --G GGG CGG TCC CAG GAC GCC **ACG** Arg Ser GIn Gly Ser GIn Asp Ala Thr b) Prank (codon) His Arg Ser Lys Gly Ser Asp Ala TCC CAT AAG GGG CGG TCG GAC GCC

CGG

Arg

TCC

Ser

Arg

GGG CGG

Ser

T-- -CG GAC

CAG

Gln

Asp

GAC

Asp

Ala

GCC

GCC

Ala

ACG

Thr

Gly

GGG

Gly

Lys

## c) MAFFT, Clustal $\Omega$ , and MACSE

Gln

TCC CAG

Ser

	Ser	His	Lys	Gly	Arg	Ser	Asp	Ala	
				GGG					
D:	TCC	CAG	<b>GG</b> G	CGG	TCC	CAG	GAC	GCC	ACG
	Ser	Gln	Gly	Arg	Ser	Gln	Asp	Ala	Thr

## d) COATi

u) COATI													
			-	-	_	Ser		-					
A:	TCC	CAT	AAG	GGG GGG	CGG	T	-CG	GAC	GCC	<u></u>			
D:	TCC	CA-	G	GGG	CGG	TCC	CAG	GAC	GCC	ACG			
	Ser	Gln		Gly	Arg	Ser	Gln	Asp	Ala	Thr			