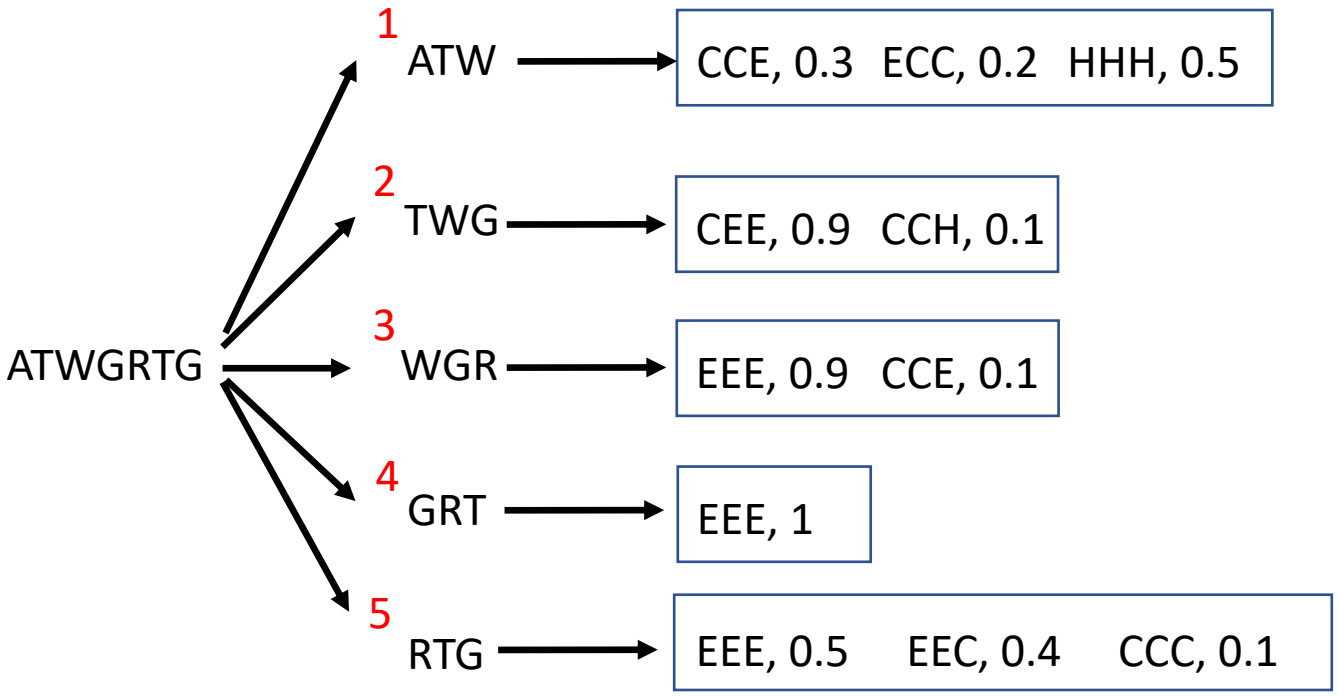
DebruijnExtend
Step By Step

seq = ATWGRTG
K = 3



Length(sequence) - (k-1) = # layers

7 - (3-1) = 5

seq = ATWGRTG
K = 3

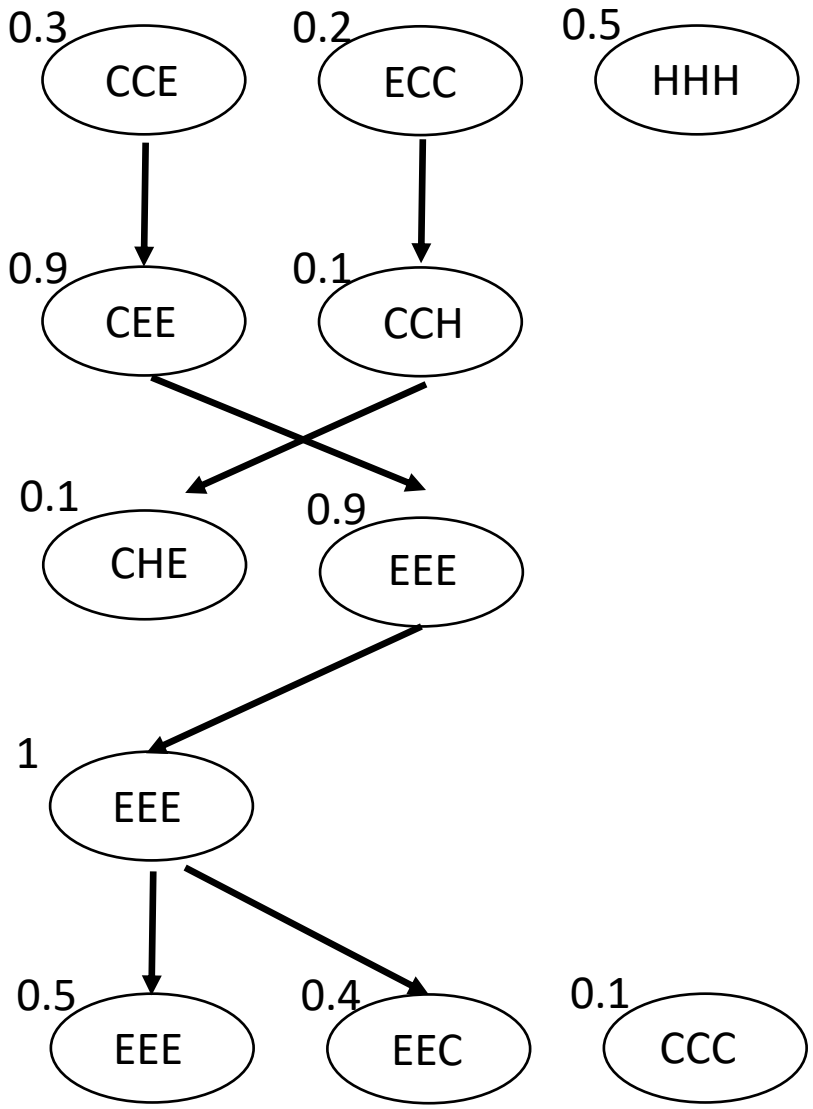
1 ATW → CCE, 0.3 ECC, 0.2 HHH, 0.5

2 TWG → CEE, 0.9 CCH, 0.1

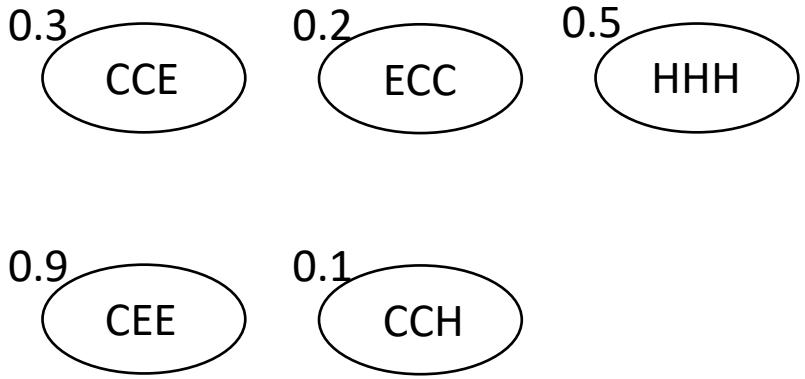
3 WGR → CHE, 0.1 EEE, 0.9

4 GRT → EEE, 1

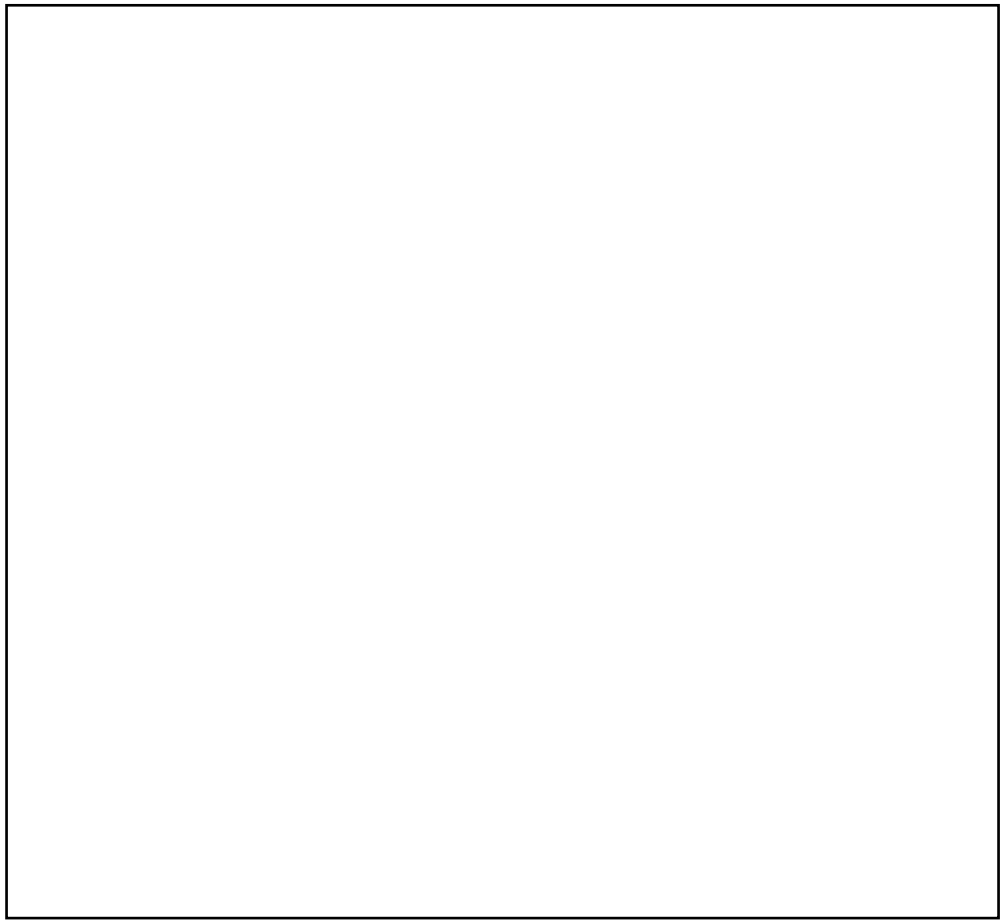
5 RTG → EEE, 0.5 EEC, 0.4 CCC, 0.1



seq = ATWGRTG
K = 3



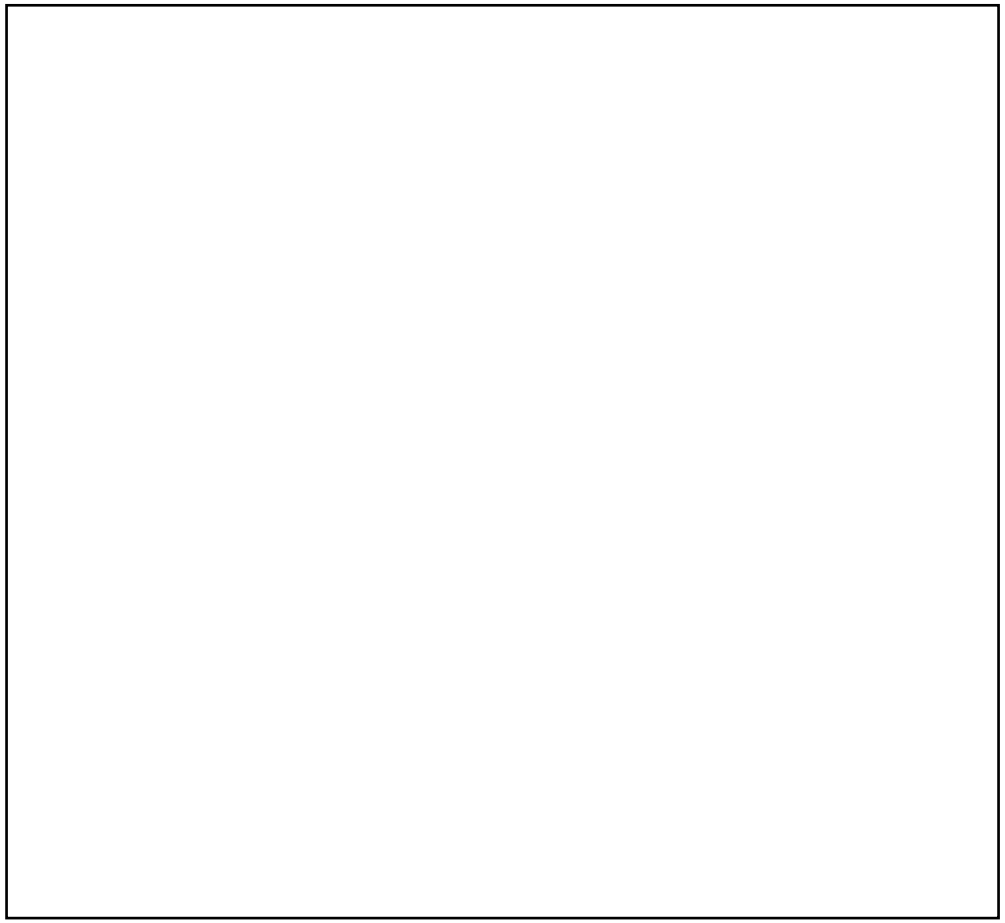
stitchextend_dict

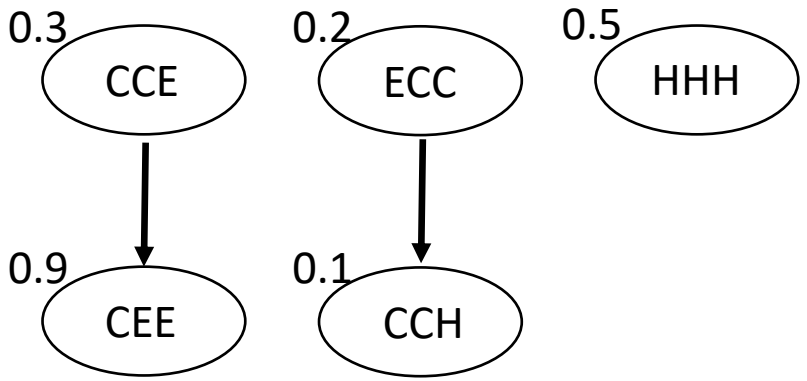


Layer 1, Layer 2

seq = ATWGRTG
K = 3

stitchextend_dict





CCE
CEE

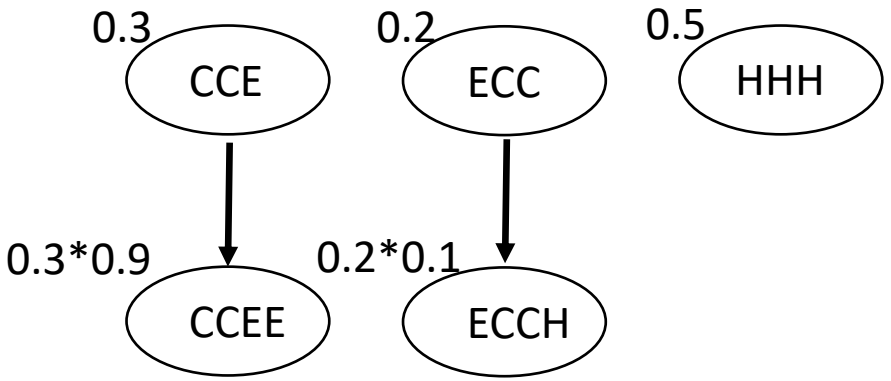
ECC
CCH

Layer 1, Layer 2

seq = ATWGRTG
K = 3

stitchextend_dict

CCEE	0.3*0.9
ECCH	0.2*0.1



CCE
CEE

ECC
CCH

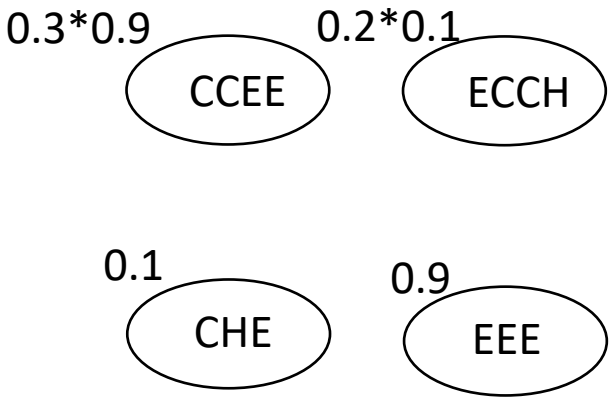
Edge Contraction

Layer 1, Layer 2

seq = ATWGRTG
K = 3

stitchextend_dict

CCEE	0.3*0.9
ECCH	0.2*0.1

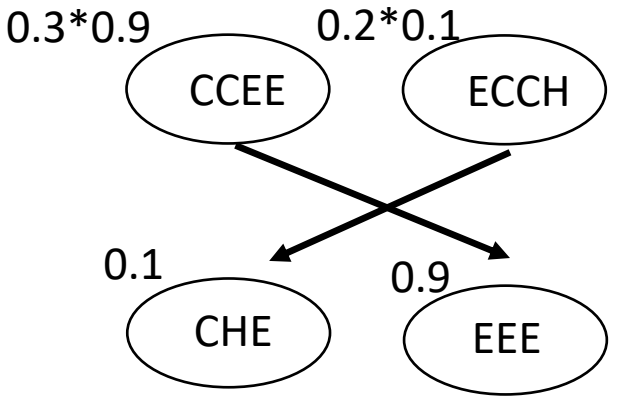


Layer 2, Layer 3

seq = ATWGRTG
K = 3

stitchextend_dict

CCEE	0.3*0.9
ECCH	0.2*0.1



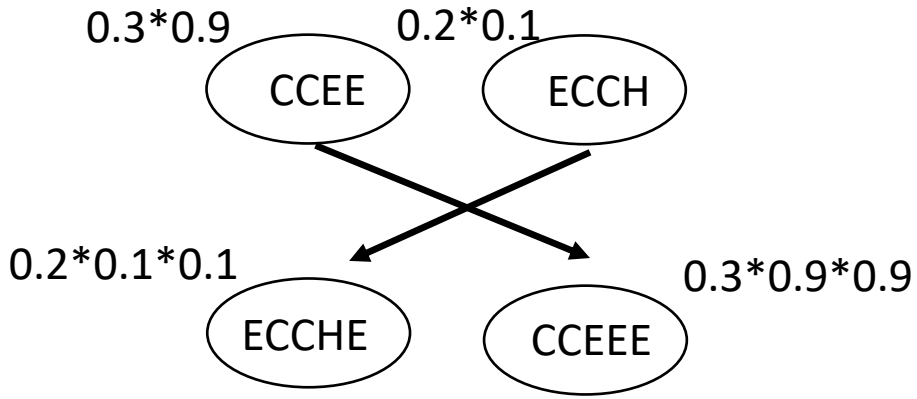
CCEE ECCH
EEE CHE

Layer 2, Layer 3

seq = ATWGRTG
K = 3

stitchextend_dict

CCEE	0.3*0.9	Del
ECCH	0.2*0.1	Del
ECCHE	0.2*0.1*0.1	Add
CCEEE	0.3*0.9*0.9	Add



CCEE
EEE

ECCH
CHE

Edge Contraction

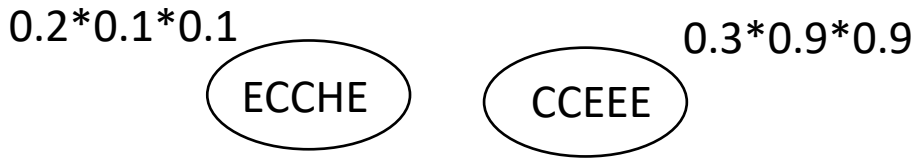
Layer 2, Layer 3

seq = ATWGRTG
K = 3

stitchextend_dict

ECCHE 0.2*0.1*0.1

CCEEE 0.3*0.9*0.9



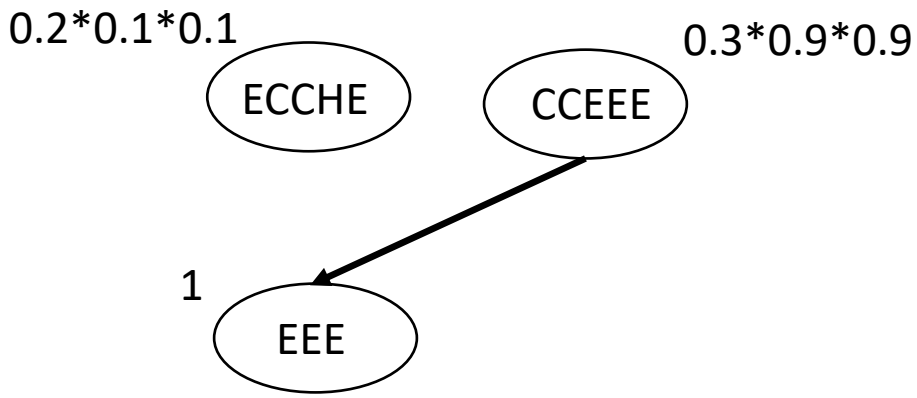
Layer 2, Layer 3

seq = ATWGRTG
K = 3

stitchextend_dict

ECCHE 0.2*0.1*0.1

CCEEE 0.3*0.9*0.9



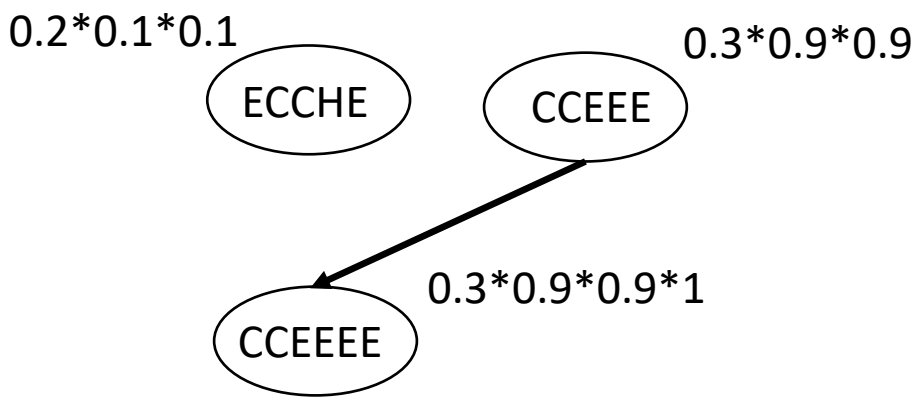
CCEEE
EEE

Layer 2, Layer 3

seq = ATWGRTG
K = 3

stitchextend_dict

ECCHE	0.2*0.1*0.1	Del
CCEEE	0.3*0.9*0.9	Del
CCEEEEE	0.3*0.9*0.9*1	Add



CCEEE
EEE

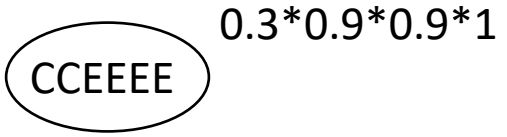
Edge Contraction

Layer 2, Layer 3

seq = ATWGRTG
K = 3

stitchextend_dict

CCEEEE 0.3*0.9*0.9*1

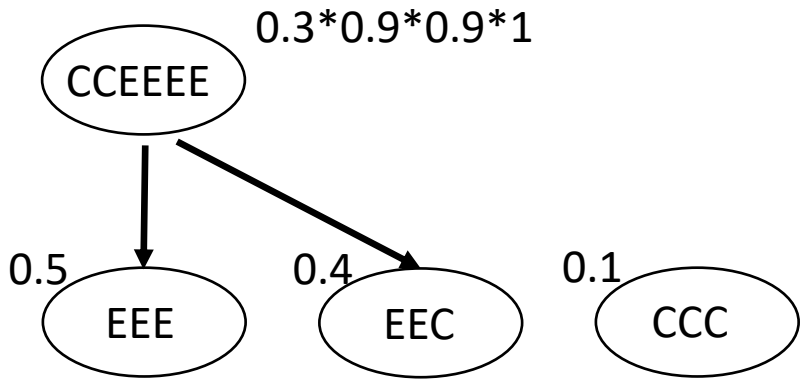


Layer 2, Layer 3

seq = ATWGRTG
K = 3

stitchextend_dict

CCEEEE 0.3*0.9*0.9*1



Layer 2, Layer 3

seq = ATWGRTG
K = 3

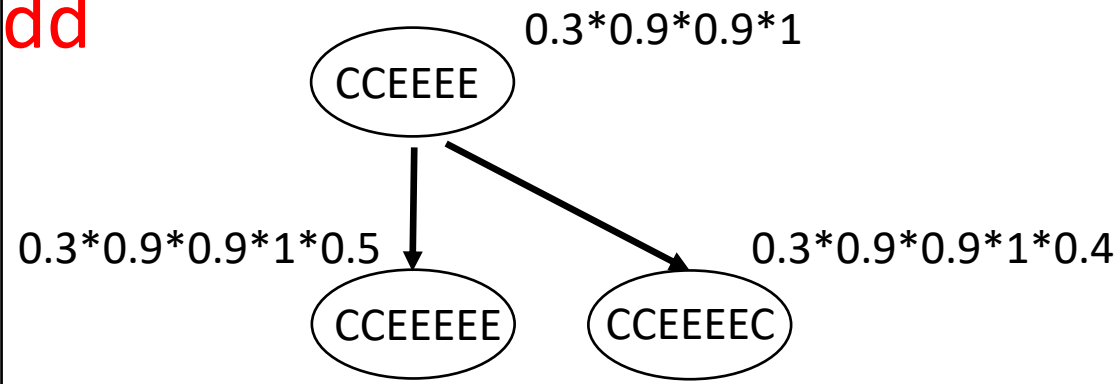
stitchextend_dict

CCEEEE 0.3*0.9*0.9*1 Del

CCEEEEE 0.3*0.9*0.9*1*0.5 Add

CCEEEEC 0.3*0.9*0.9*1*0.4 Add

Edge Contraction



Layer 2, Layer 3

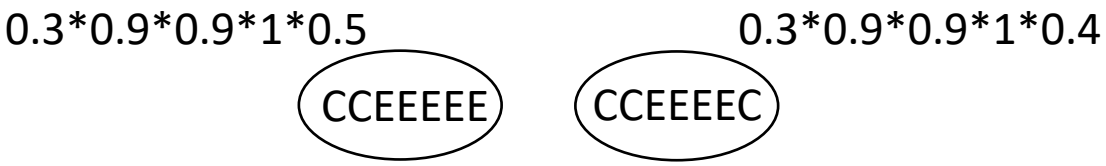
seq = ATWGRTG
K = 3

stitchextend_dict

CCEEEEE 0.3*0.9*0.9*1*0.5

CCEEEEC 0.3*0.9*0.9*1*0.4

Entire graph is now edge contracted!



Layer 2, Layer 3

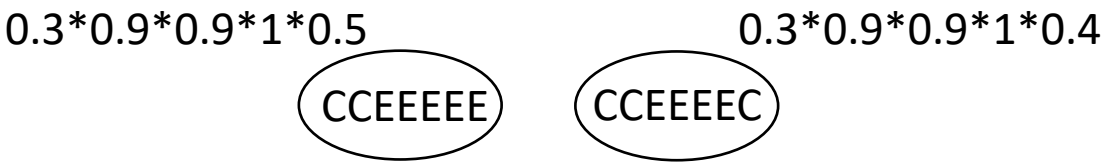
seq = ATWGRTG
K = 3

stitchextend_dict

CCEEEEE 0.3*0.9*0.9*1*0.5

CCEEEEC 0.3*0.9*0.9*1*0.4

Entire graph is now edge contracted!



Layer 2, Layer 3

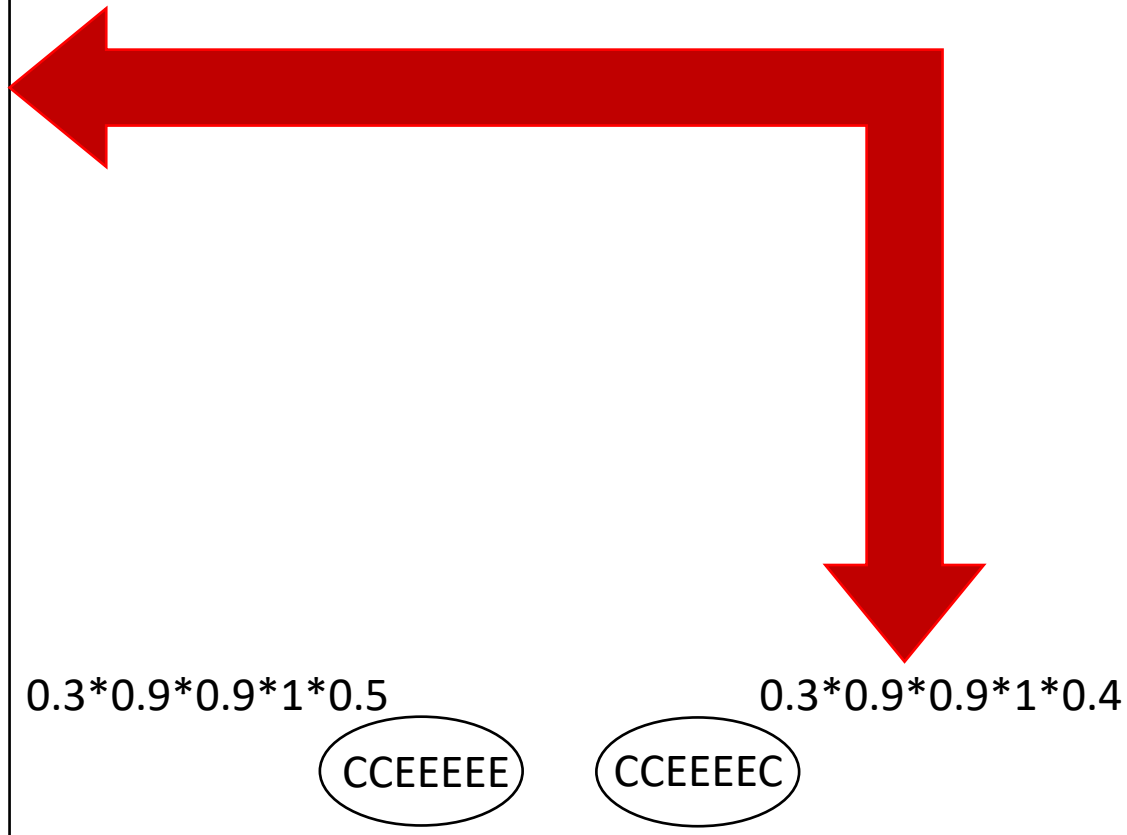
seq = ATWGRTG
K = 3

Choose the node with the highest probability

stitchextend_dict

CCEEEEE 0.3*0.9*0.9*1*0.5

CCEEEEC 0.3*0.9*0.9*1*0.4



Layer 2, Layer 3