

Components

A	C	D	E	F	G	H	I	K	L	M	N	P	Q	R	S	T	V	W	Y
Ala	Cys	Asp	Glu	Phe	Gly	His	Ile	Lys	Leu	Met	Asn	Pro	Gln	Arg	Ser	Thr	Val	Trp	Tyr

Synthesis

1. Start: Methionine

Methionine
Gly Glu Leu Val Ala

2. His tag for purifying recombinant proteins: His His His His His His

Methionine, Alanine
His His His His His His
Gly Glu Leu Val Ala

3. Basic amino acids (raise the pH) & acidic amino acids (lower the pH): Lys His Arg, Asp Glu

Methionine, Alanine
His His His His His His
Lys His Arg, Asp Glu
Gly Glu Leu Val Ala

4. Phosphorylation: Ser, Thr, Tyr

e.g., Leu Val Met Pro Ser-Phosphate, Pro Phe Trp Gln Thr-Phosphate,
Ile Ala Asn Gly Tyr-Phosphate
Methionine, Alanine
His His His His His His
Lys His Arg, Asp Glu
Leu Val Met Pro Ser-(Phosphate?)
Pro Phe Trp Gln Thr-(Phosphate?)
Ile Ala Asn Gly Tyr-(Phosphate?)
Gly Glu Leu Val Ala

5. Disulfide bridges: -S-S- bonds between 2 nonconsecutive Cys's

e.g., Trp Ser Trp Cys (-S-S-), Met Ser Val Cys (-S-S-)
Methionine, Alanine
His His His His His His
Trp Ser Trp Cys (-S-S-)
Lys His Arg, Asp Glu
Leu Val Met Pro Ser-(Phosphate?)
Pro Phe Trp Gln Thr-(Phosphate?)
Ile Ala Asn Gly Tyr-(Phosphate?)
Met Ser Val Cys (-S-S-)
Gly Glu Leu Val Ala

Amino Acid Jazz

G. J. Crowther

♩=160

Part 1

METH I O NINE! _ AL A NINE! _ Meth i o nine! _ Al a nine! _ HIS HIS HIS HIS

Part 2

HIS HIS! _ His His His His His His! _ TRP SER TRP CYS S - S _ Trp Ser Trp Cys

Part 3

S - S _ LYS HIS ARG! ASP GLU! _ Lys His Arg! Asp Glu! _

Part 4

LEU VAL MET PRO SER PHOS _ PHATE? _ Leu Val Met Pro Ser Phos _phate? _ PRO PHE TRP GLN

Part 5

THR PHOS _ PHATE? _ Pro Phe Trp Gln Thr Phos _phate? _ I-LE A-LA A-SN GLY TYR PHOS _ PHATE? _

Part 6

I-le A-la A-sn Gly Tyr Phos _phate? _ MET SER VAL CYS S - S _ Met Ser Val Cys

Part 7

S - S _ GLY GLU LEU VAL A LA! _ (YEAH!) _ Gly Glu Leu Val A la! _ (Yeah!) _