Table S1.
The following list comprises the reactions included in peptide and aminoacid based ^{13}C MFA methods, along with their corresponding carbon transitions. Carbon transitions indicate the fate of each carbon in the reaction.

Reaction Name	Reaction	Carbon transitions obtained from Antoniewic *et al* [1]
GLCpts:	glc-D[e] + pep → g6p + pyr	abcdef + ABC : abcdef + ABC

Glycolysis/gluconeogenesis

PGI:	g6p ↔ f6p	abcdef : abcdef
PFK:	f6p → fdp	abcdef : abcdef
FBA	fdp → g3p + dhap	CBAabc : abc + ABC
TPI	dhap → g3p	abc : abc
GAPD	g3p → 13dpg	abc : abc
PGK	3pg → 13dpg	abc : abc
PGM	2pg ↔ 3pg	abc : abc
PYK	pep → pyr	abc : abc
PDH	pyr → co2 + accoa	abc : a + bc

Pentose Phosphate Pathway

G6PDH2r	g6p → 6pgl	abcdef : abcdef
PGL	6pgl → 6pgc	abcdef : abcdef
GND	6pgc → co2 + ru5p-D	abcdef : a + bcdef
RPE	ru5p-D ↔ xu5pD	abcde : abcde
RPI	r5p ↔ ru5p-D	abcde : abcde
TKT1	xu5pD + r5p ↔ g3p + s7p	ABCDE + abcde : CDE + ABabcde
TALA	g3p + s7p ↔ f6p + e4p	ABC + abcdefg : abcABC + defg
TKT2	xu5pD + e4p ↔ g3p + f6p	abABC + cdef : ABC + abcdef
EDD	6pgc → 2ddg6p	abcdef : abcdef
EDA	2ddg6p → pyr + g3p	abcdef : abc + def

Citric Acid Cycle/TCA

CS	oaa + accoa → cit	abcd + AB : dcbBAa
ACONT	cit → icit	abcdef : abcdef
ICDHy	icit → akg + co2	abcdef : abcde + f
AKGDH	akg → succoa + co2	abcde : bcde + a
SUCOAS	succ ↔ succoa	bcde : (bcde;edcb)
SUCDi	succ → fum	abcd : abcd
FUM	fum → mal-L	abcd : abcd
MDH	mal-L ↔ oaa	abcd : abcd

Anaplerotic reactions

ENO	2pg ↔ pep	abc : abc
PPC	pep + co2 → oaa	abc + d : abcd
PPCK	oaa → pep + co2	abcd : abc + d
ME1	mal-L → pyr + co2	abcd : abc + d
ICL	icit → succ + glx	ABCDEF : FCDE + AB
MALS	glx + accoa → mal-L	AB + CD : ABCD

Alanine and aspartate metabolism

ALATA_L	pyr → ala-L	abc : abc
ASPTA	oaa → asp-L	abcd : abcd
Asnsyn	aspL → asn-L	abcd : abcd
Metsyn	aspL + mlthf → met-L	abcd + e : abcde

Glutamate metabolism

GLUDy	glu-L ↔ akg	abcde : abcde
GLNS	glu-L → gln-L	abcde : abcde
Prosyn	gluL → pro-L	abcde : abcde
Argsyn	gluL + co2 → arg-L	abcde + f : abcdef

Glycine and serine metabolism

PGCD	3pg → ser-L	abc : abc
GHMT2	ser-L → mlthf + gly	abc : c + ab
Cyssyn	serL → cysL	abc : abc

Threonine and lysine metabolism

ASPK	asp-L → thrL	abcd : abcd
Lyssyn	aspL + pyr → lys-L + co2	abcd + efg : abcdgf + e

Valine, leucine and isoleucine metabolism

ValSyn2	pyr + pyr → val-L + co2	abc + def : abcef + d
Ilesyn	thrL + pyr → ile-L + co2	abcd + efg : abfcdg + e
ACLS	pyr + accoa → pyrb	cde + ab : abde + c
LeuSyn	pyrb + pyr → leu-L + co2	abde + fgh : abdghe + f

Tyrosine and phenylalanine metabolism

Presyn	pep + e4p → co2 +pre	def + ghij : d + efghij
PheSyn2	pre+ pep → phe-L	efghij + abc : abcefghij
Tyrsyn	pre + pep → tyr-L	efghij + abc : abcefghij

Histidine and tryptophan metabolism

PRPPS	r5p + mlthf → his-L	abcde + f : edcbaf
Tipsyn	serL + r5p --> tip + g3p	abc + defgh : abced + fgh
Trpsyn	tip + pre --> trpL	abced + BCEFGH : abcedCEFGHB

Biomass fluxes:

G6Pbm	g6p → g6pbm	abcdef : abcdef
F6Pbm	f6p → f6pbm	abcdef : abcdef
R5Pbm	r5p → r5pbm	abcde : abcde
E4Pbm	e4p → e4pbm	abcd : abcd
G3Pbm	g3p → g3pbm	abc : abc
13dpgbm	13dpg → 13dpgbm	abc : abc
PEPbm	pep → pepbm	abc : abc
PYRbm	pyr → pyrbm	abc : abc
AcCoabm	accoa → accoabm	ab : ab
OAAbm	oaa → oaabm	abcd : abcd
AKGbm	akg → akgbm	abcde : abcde
CO2bm	co2 → co2bm	a : a

Fluxes out:

L_LACt2r	pyr → lacL	abc : abc
ADHer	accoa → etoh	ab : ab
ETOHt2r	etoh → etOHE	ab : ab
ACACCT	accoa → acE	ab : ab