

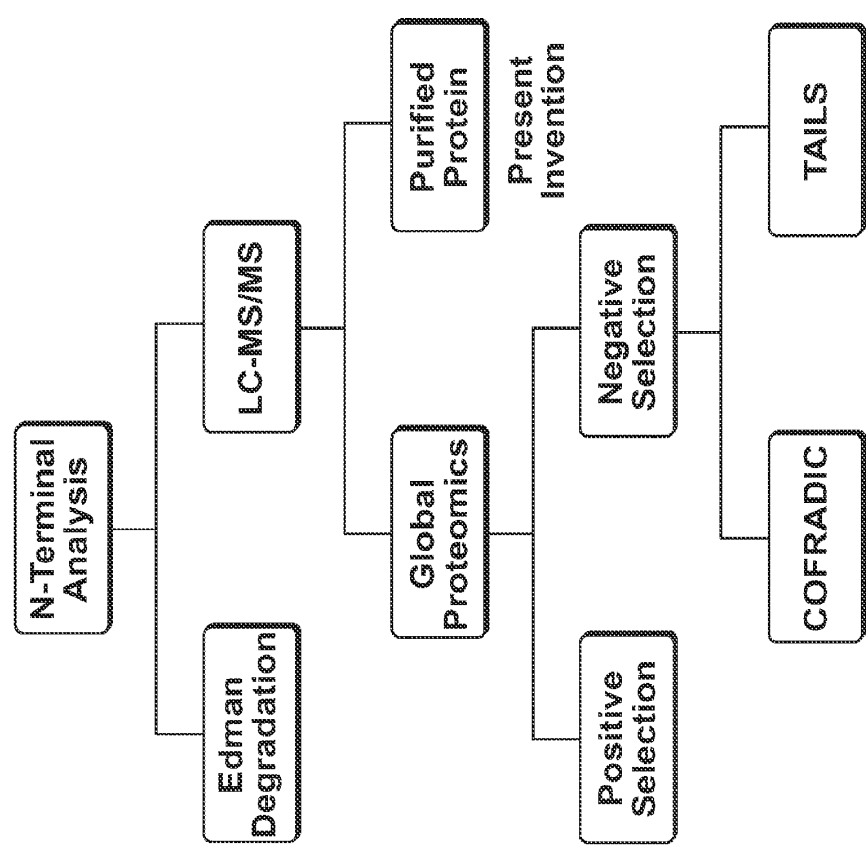


FIG. 1

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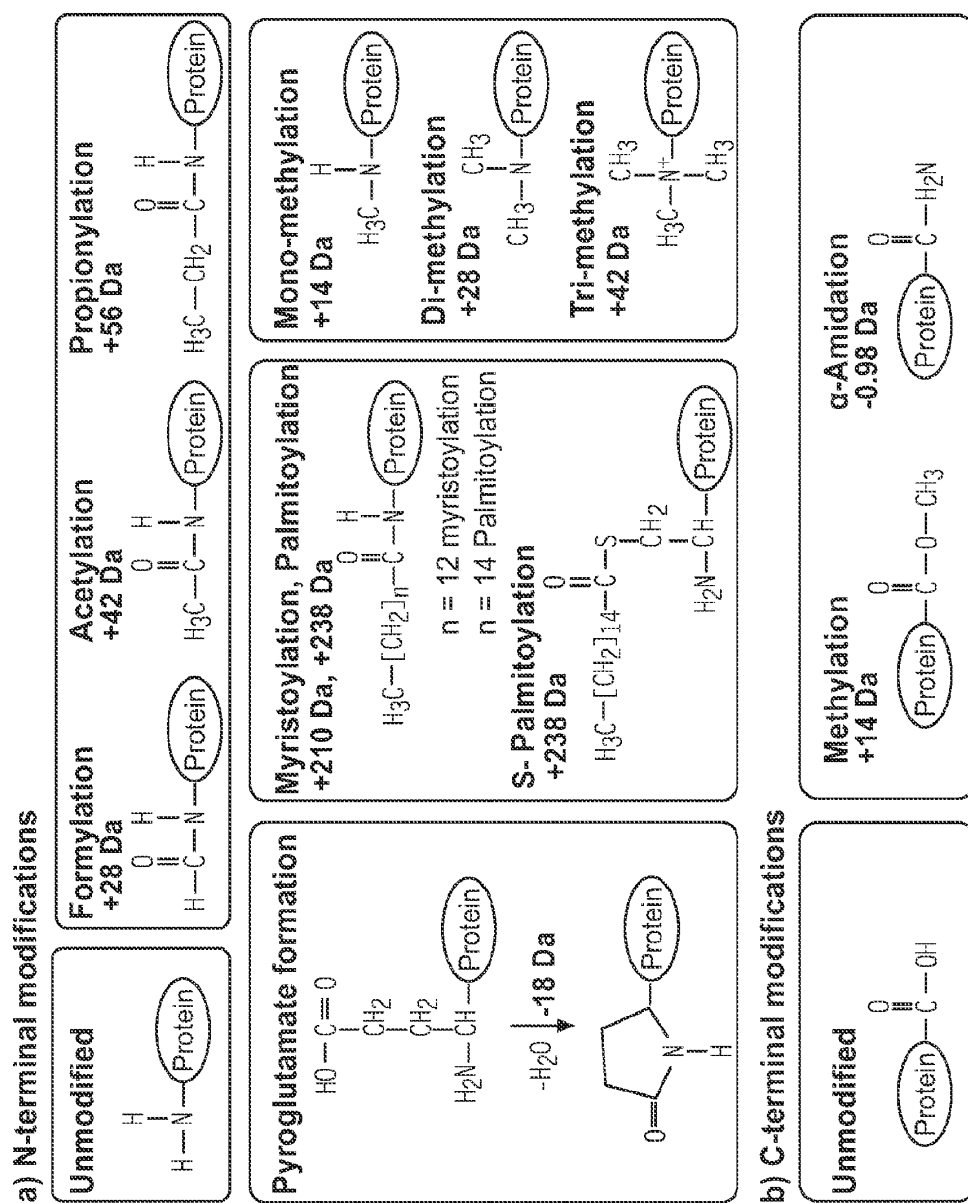


FIG. 2

ACS chemical biology, 2015, 10, 1754-1764.

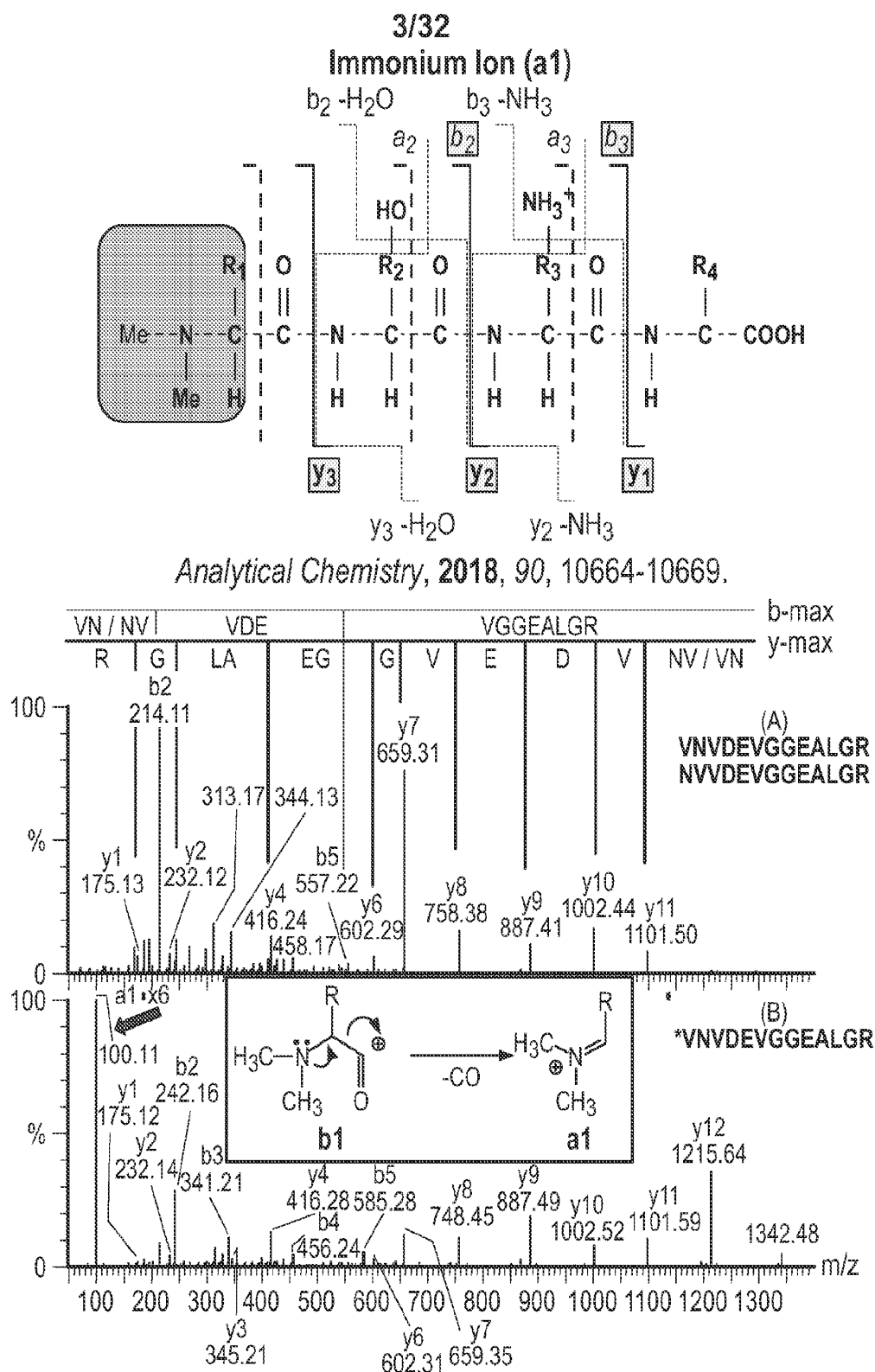


FIG. 3

SUBSTITUTE SHEET (RULE 26)

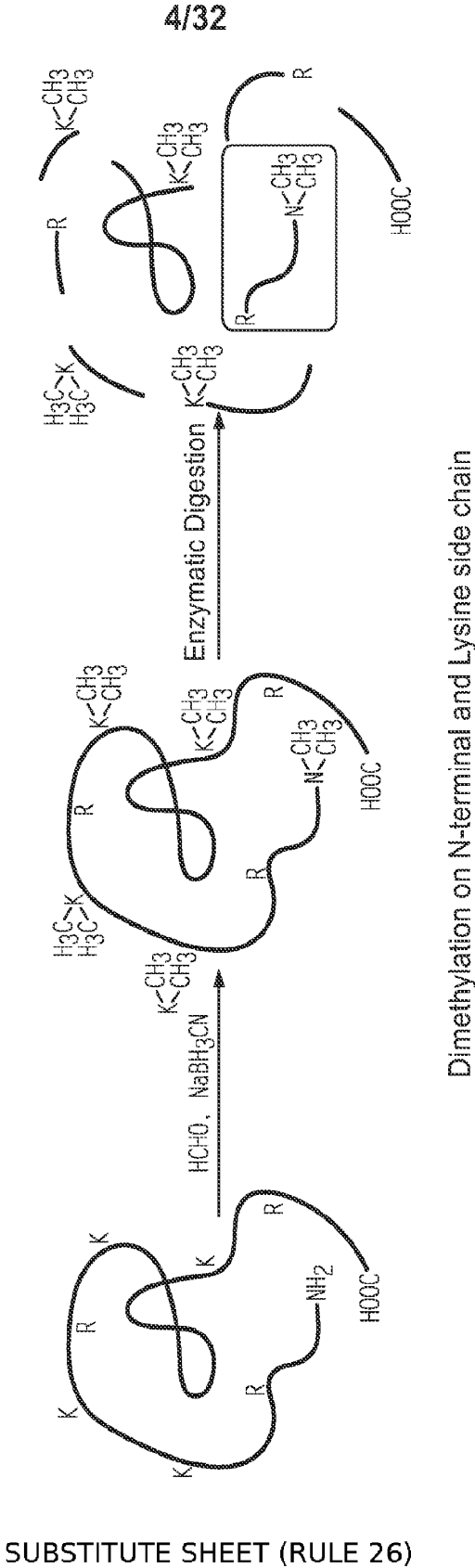


FIG. 4

Non-Position-Selective Dimethylation, 78% sequence coverage

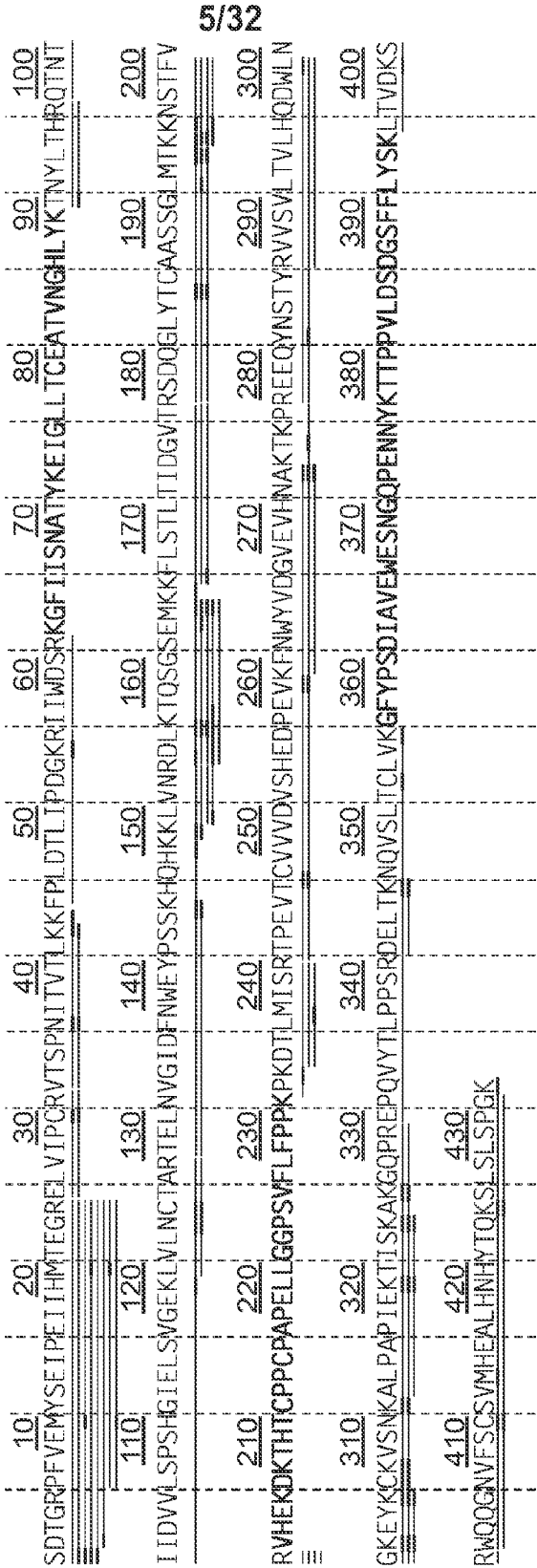


FIG. 5

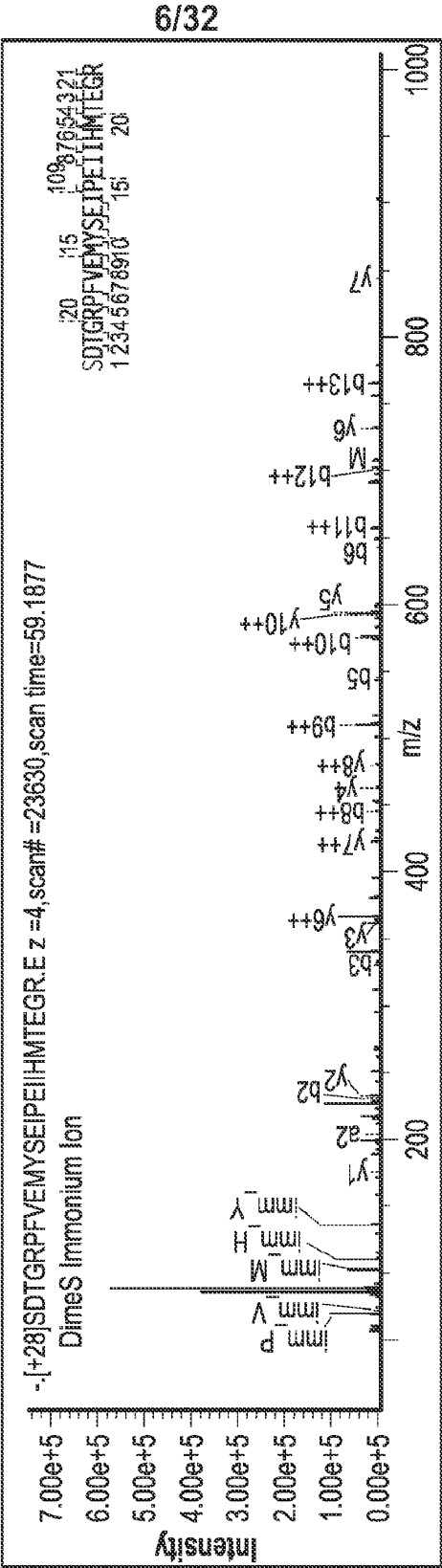
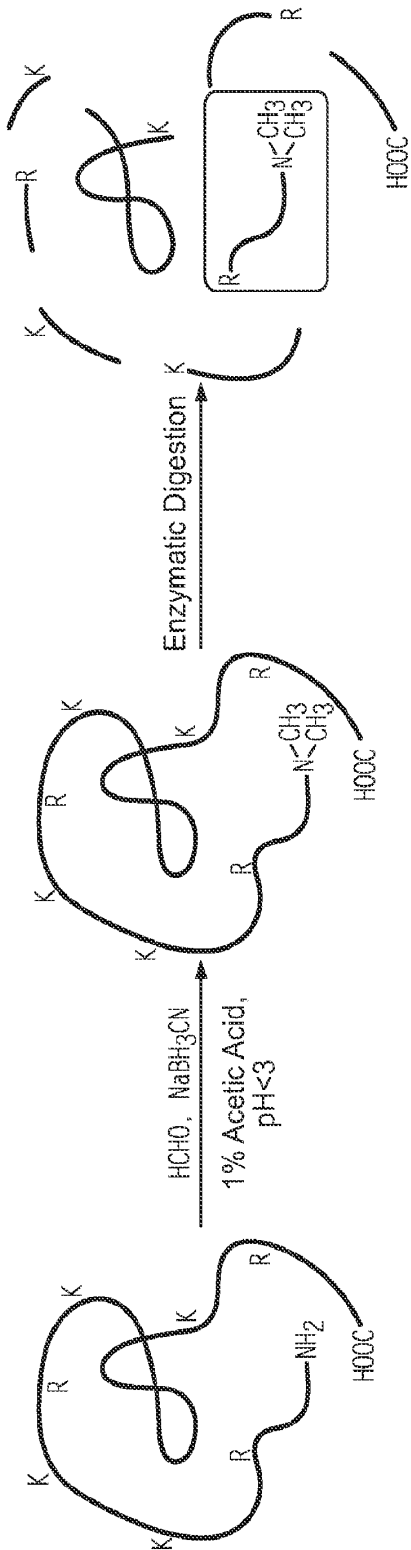


FIG. 6

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Position-Selective Dimethylation on N-terminal of Protein

FIG. 7

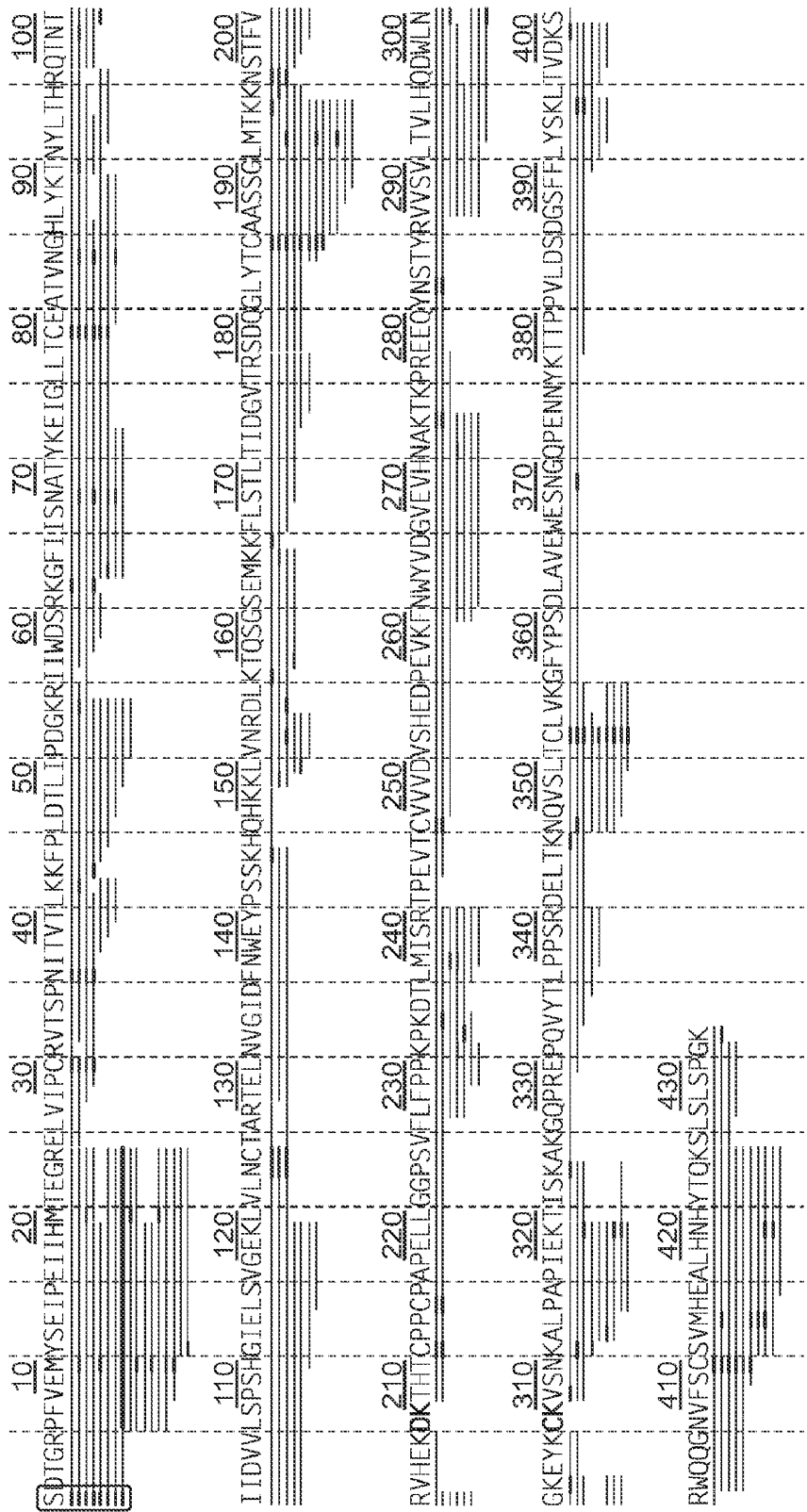


FIG. 8

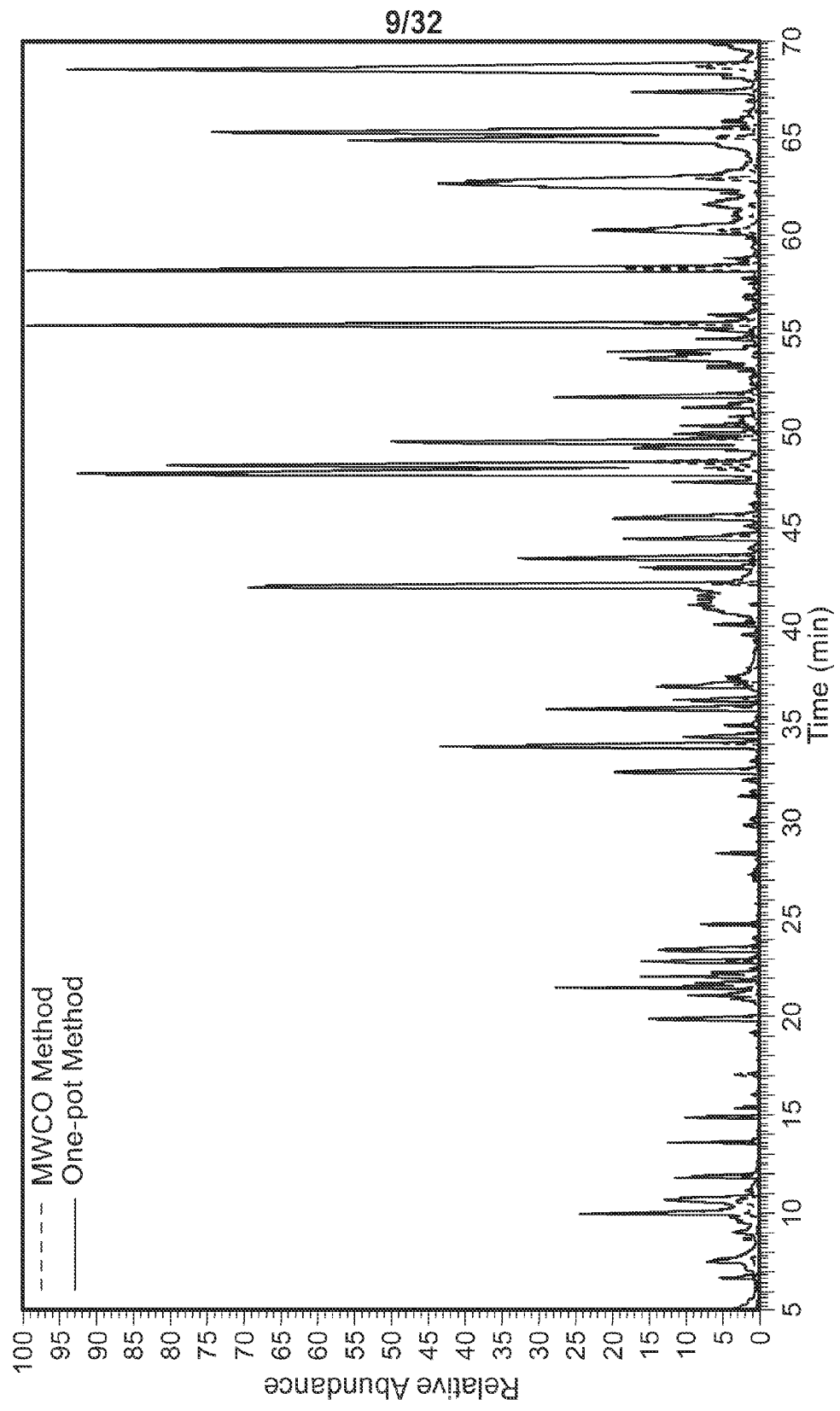
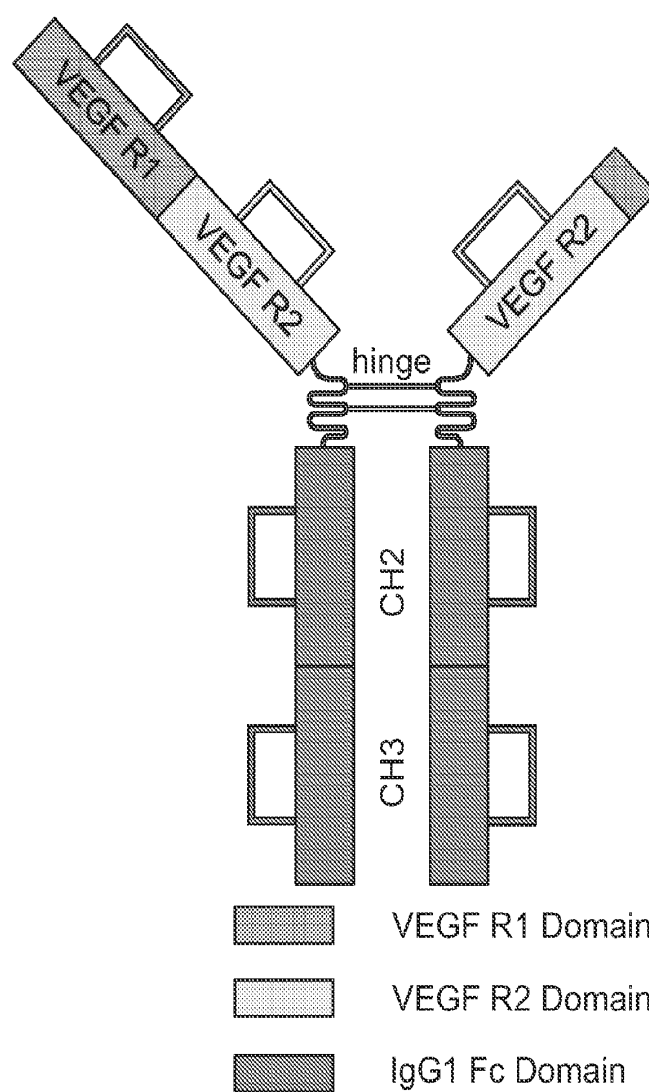


FIG. 9

Ab1	Method	Acetic Acid	HCHO	NaBH ₃ CN	Reaction time	Reaction temperature	Quench	Quench time	Quench temperature	Labeling Efficiency -SDT
MWCO	MWCO	1%	60 mM	24 mM	10 min	R.T	NH ₃	5 min	R.T	99.6%
20 mM HCHO	R.T, 10 min	1%	20 mM	10 mM	10 min	R.T	NH ₂ OH	10 min	R.T	38.8%
	R.T, 60 min	1%	20 mM	10 mM	1h	R.T	NH ₂ OH	1h	R.T	85.9%
10 mM NaBH ₃ CN	37°C, 60 min	1%	20 mM	10 mM	1h	37°C	NH ₂ OH	1h	37°C	90.1%
60 mM HCHO 24 mM NaBH ₃ CN	37°C, 15 min	1%	60 mM	24 mM	15 min	37°C	NH ₂ OH	15 min	37°C	98.4%
	37°C, 30 min	1%	60 mM	24 mM	30 min	37°C	NH ₂ OH	30 min	37°C	97.1%

FIG. 10

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 N-linked Glycosylation Sites
(N36, N68, N123, N196, N282)

FIG. 11A

SUBSTITUTE SHEET (RULE 26)

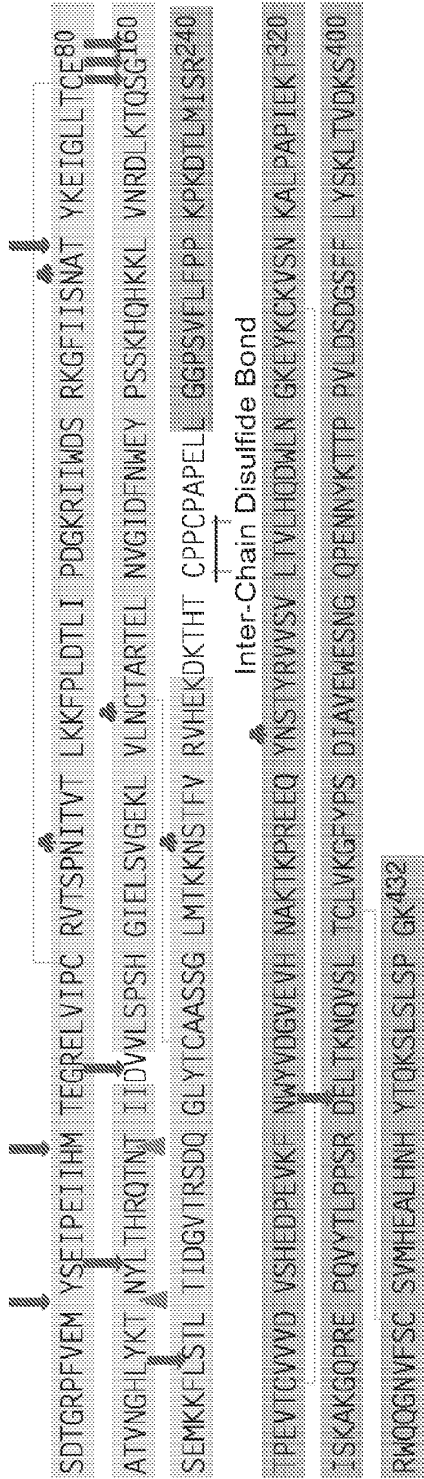


FIG. 11B

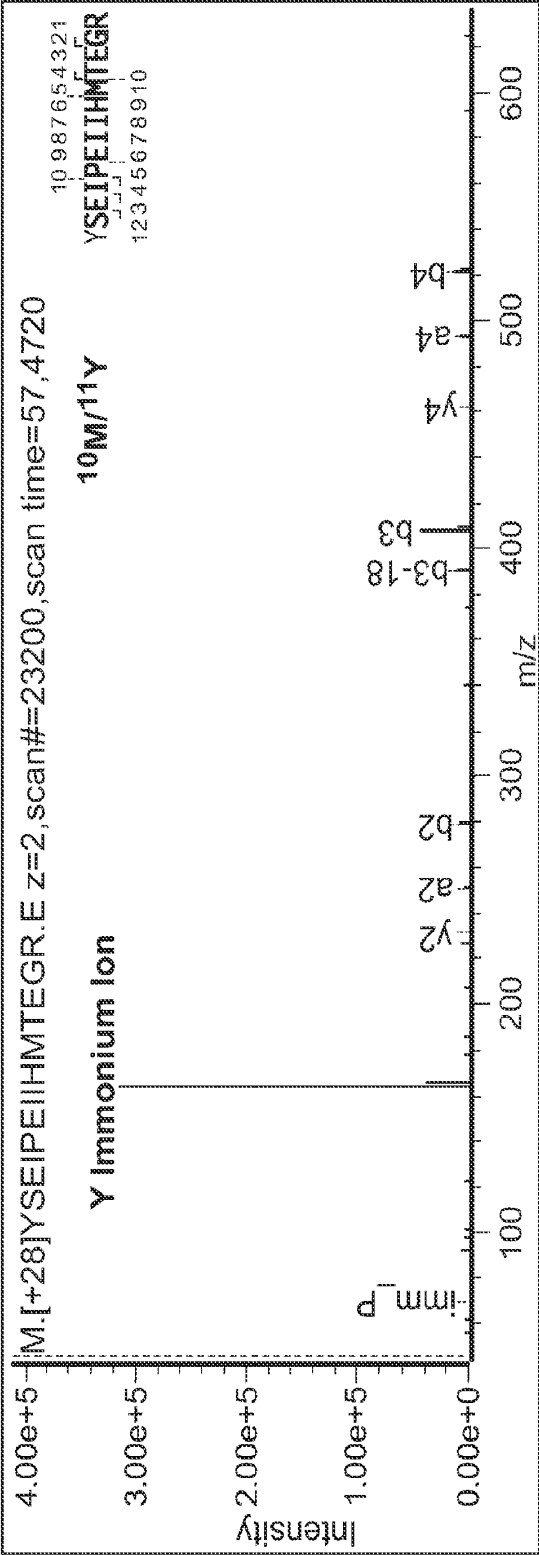
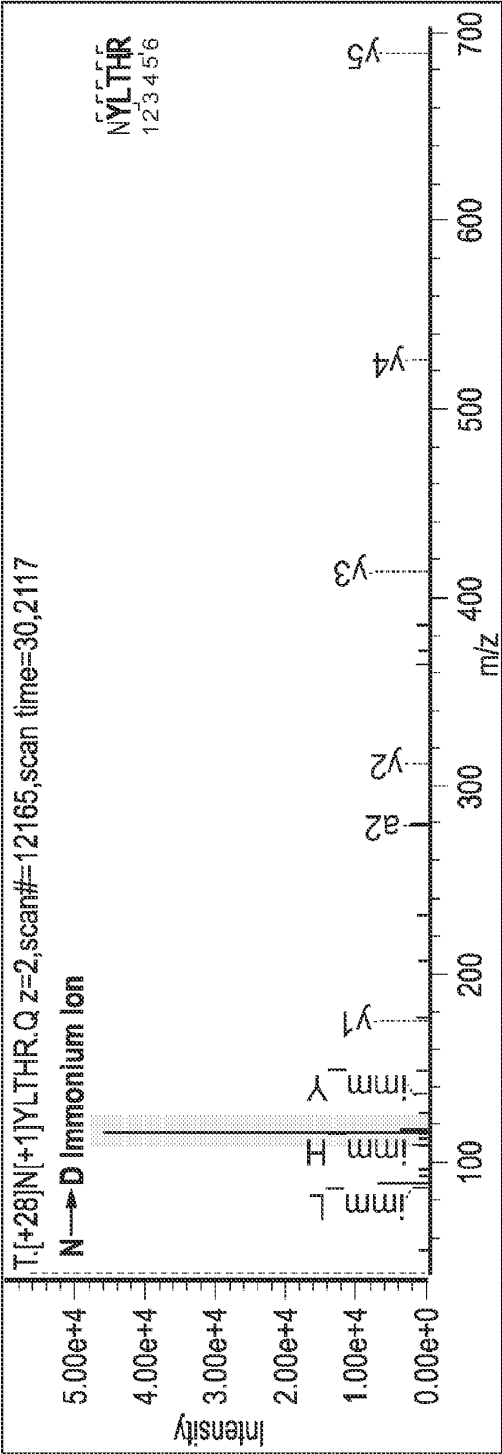


FIG. 11C



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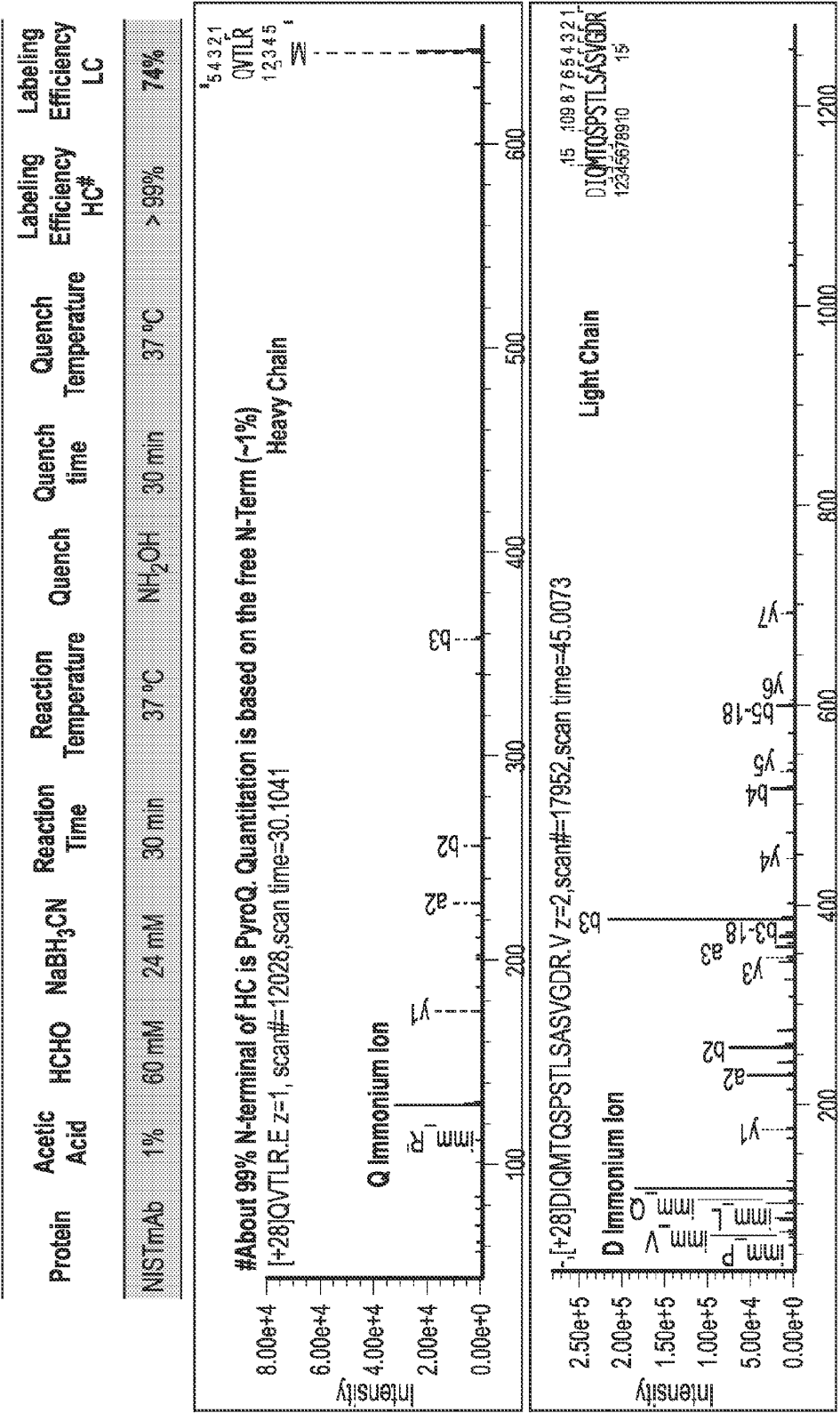


FIG. 12

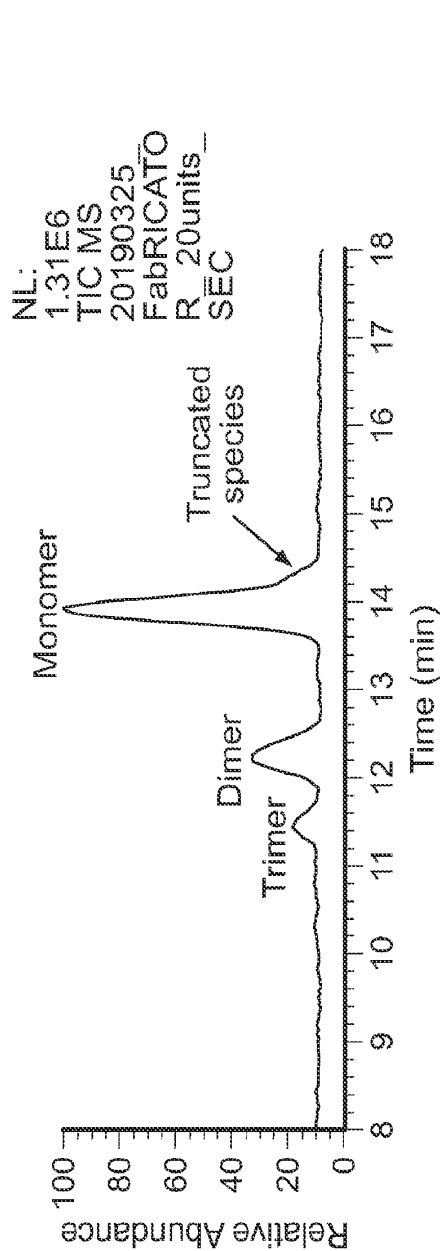


FIG. 13A

IdeS from patent:

Average Mass = 35762.9837|Monoisotopic Mass = 35740.7970
N-Terminus = H, C-Terminus = OH

1	DSFSA	NQEIR	YSEVT	PYHVT	SVWTK	GVTPP	ANFTQ	GEDVF	HAPYV	ANQGW
51	YDITK	TFNGK	DDLLC	GAATA	GNMLH	WMFDQ	NKDQI	KRYLE	EHPEK	QKINF
101	NGEQM	FDVKE	AIDTK	NHQLD	SKLFE	YFKEK	AFPYL	STKHL	GVFPD	HVIDM
151	FINGY	RLSLT	NHGPT	PVKEG	SKDPR	GGIFD	AVFTR	GDQSK	LLTSR	HDFKE
201	KNLKE	ISDLI	KKELT	EGKAL	GLSHT	YANVR	INHVI	NLWGA	DFDSN	GNLKA
251	IYVTD	SDSNA	SIGMK	KYFVG	VNSAG	KVAIS	AKEIK	EDNIG	AQVLG	LFTLS
301	TGQDS	WNQTN	HHHHH	H						

Predicted mass: 35763.0 + 552.3 + 329.2 = 36644.5 Da
N-Term C-Term

FIG. 13B

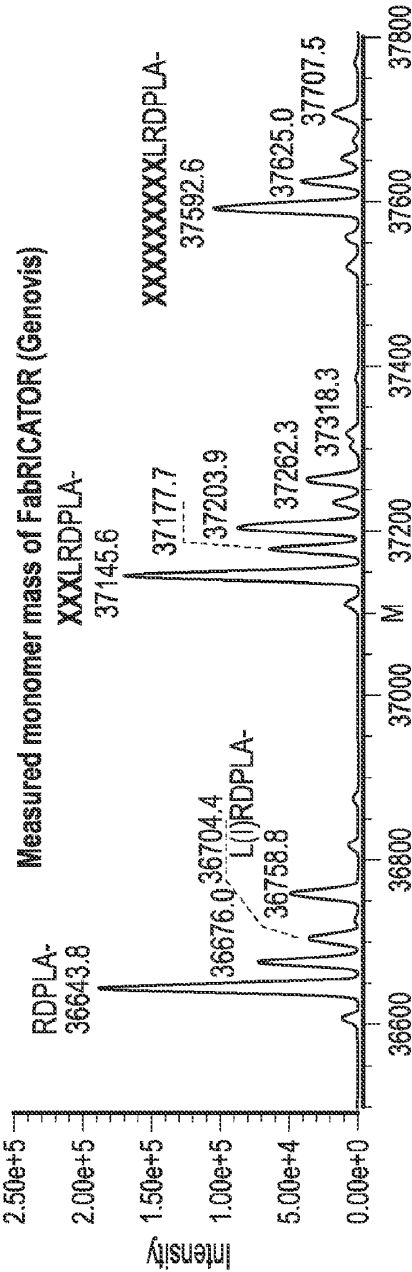


FIG. 13C

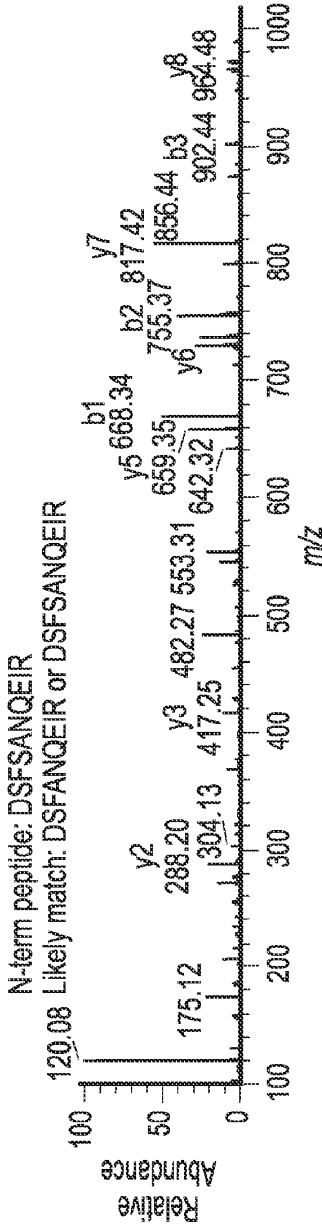
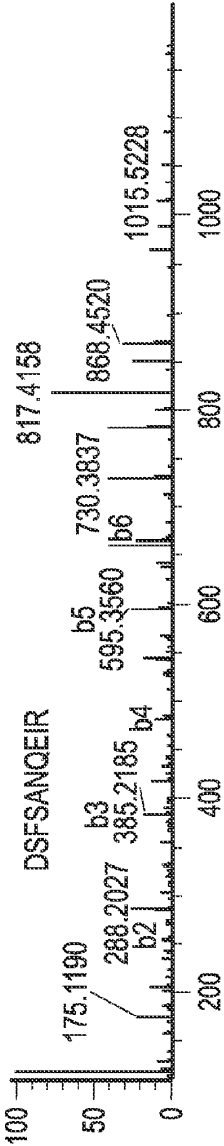
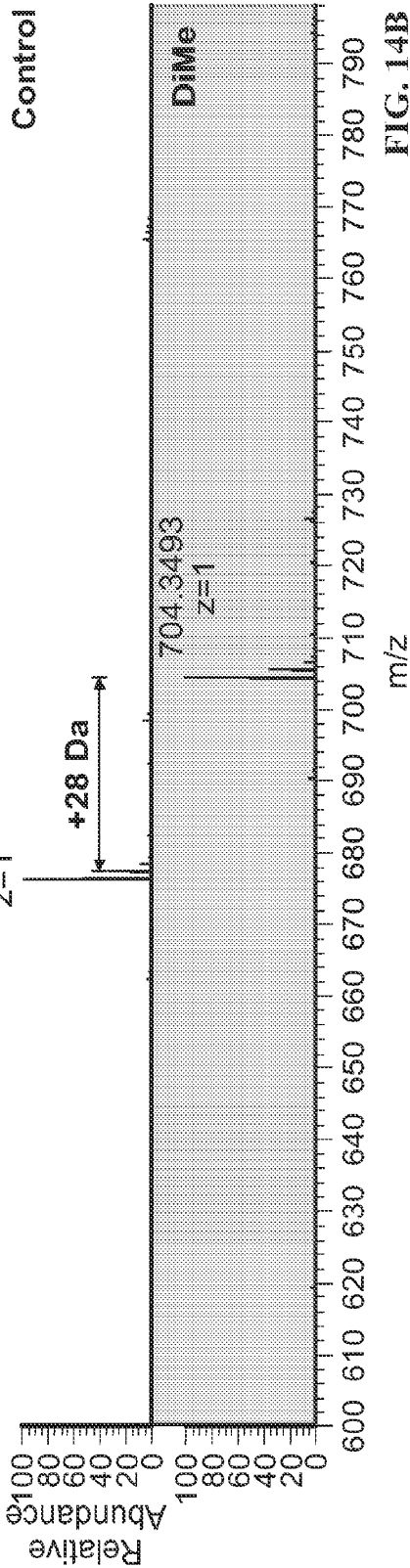
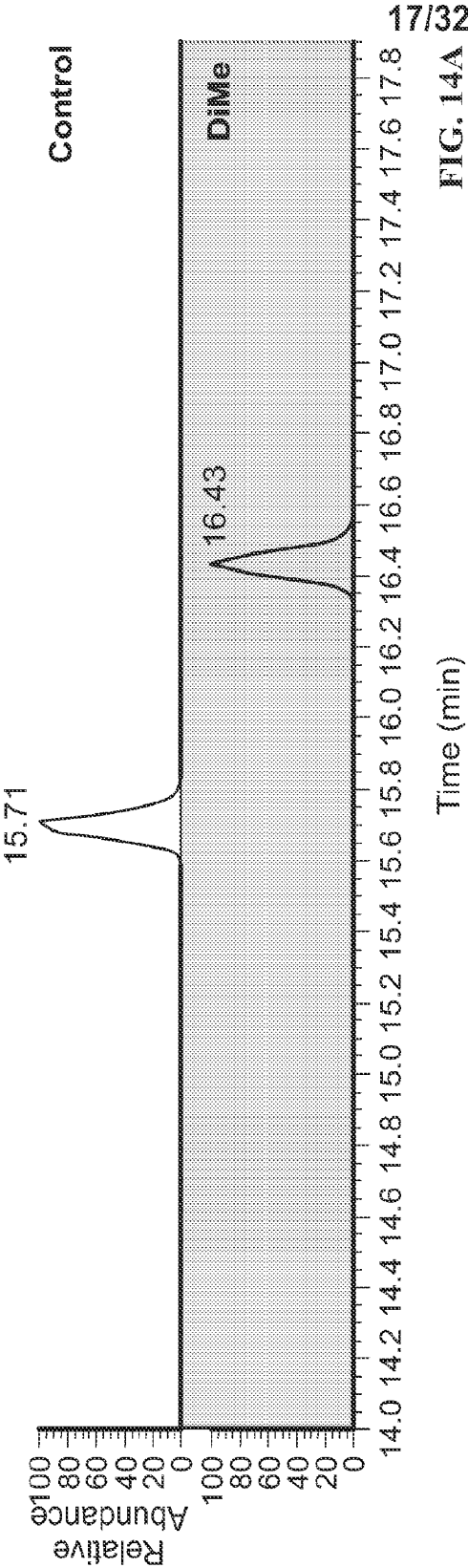
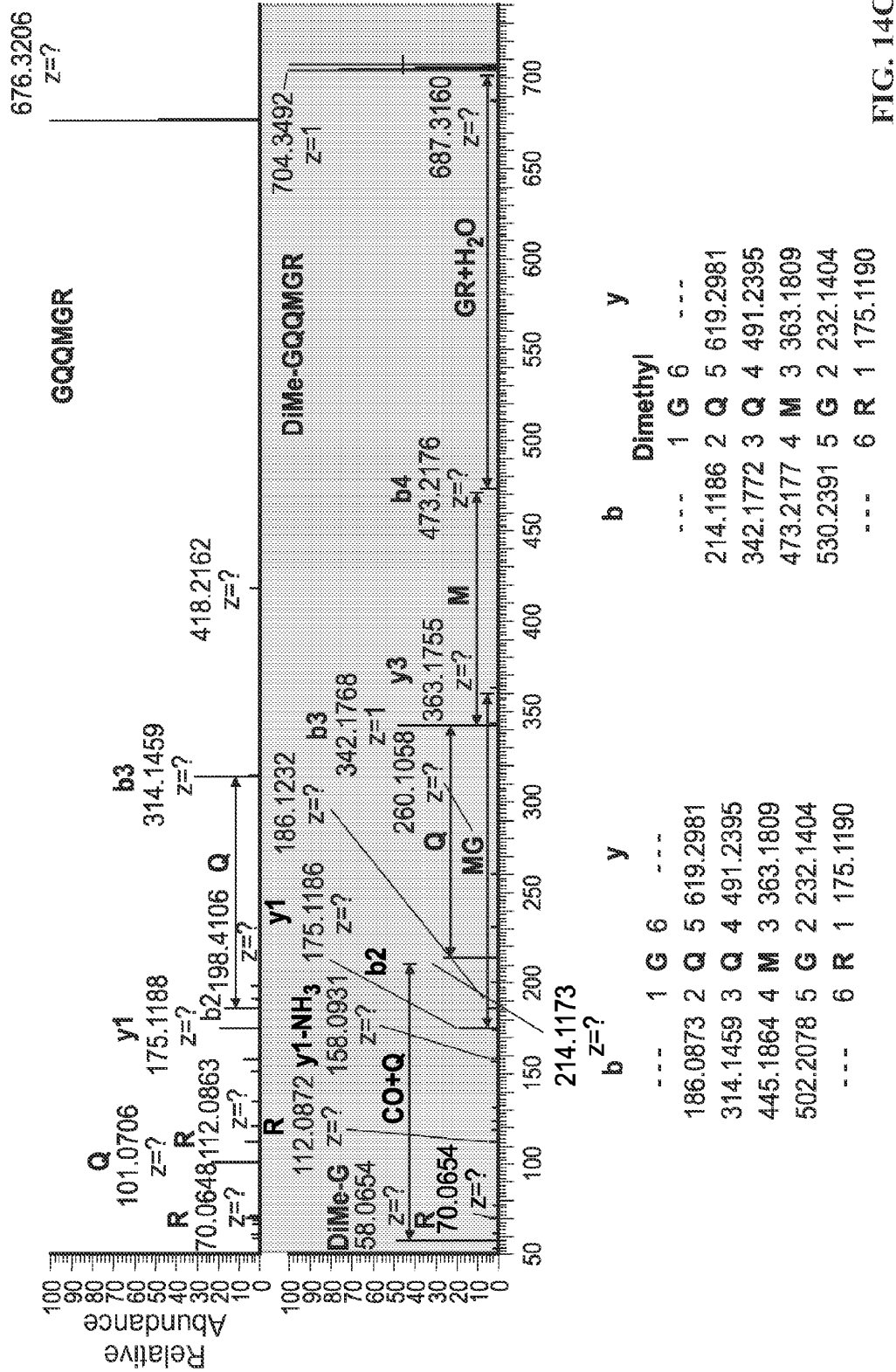
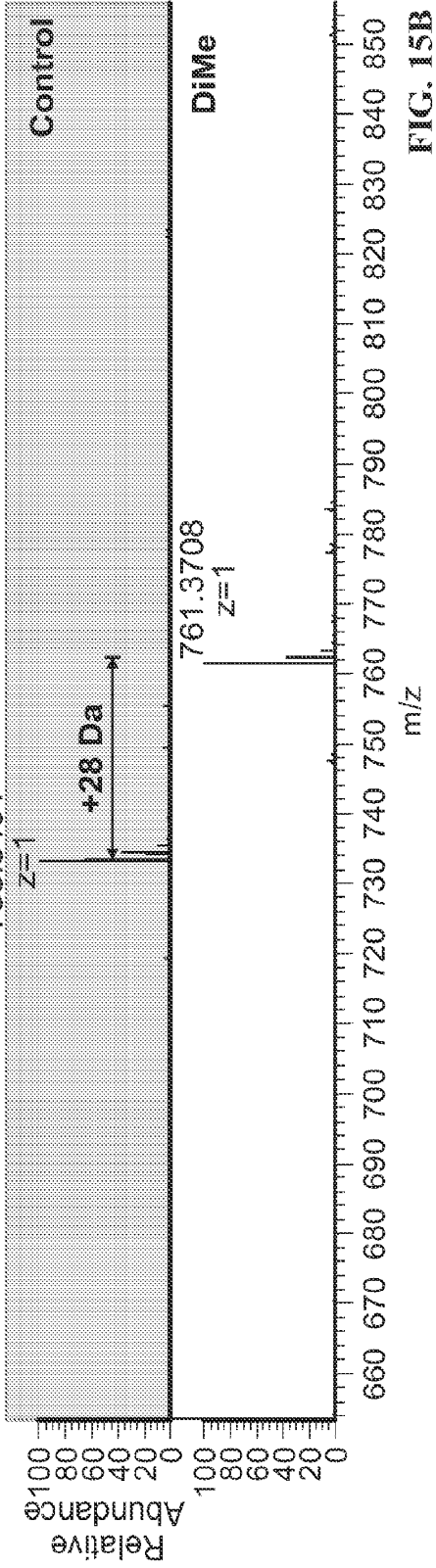
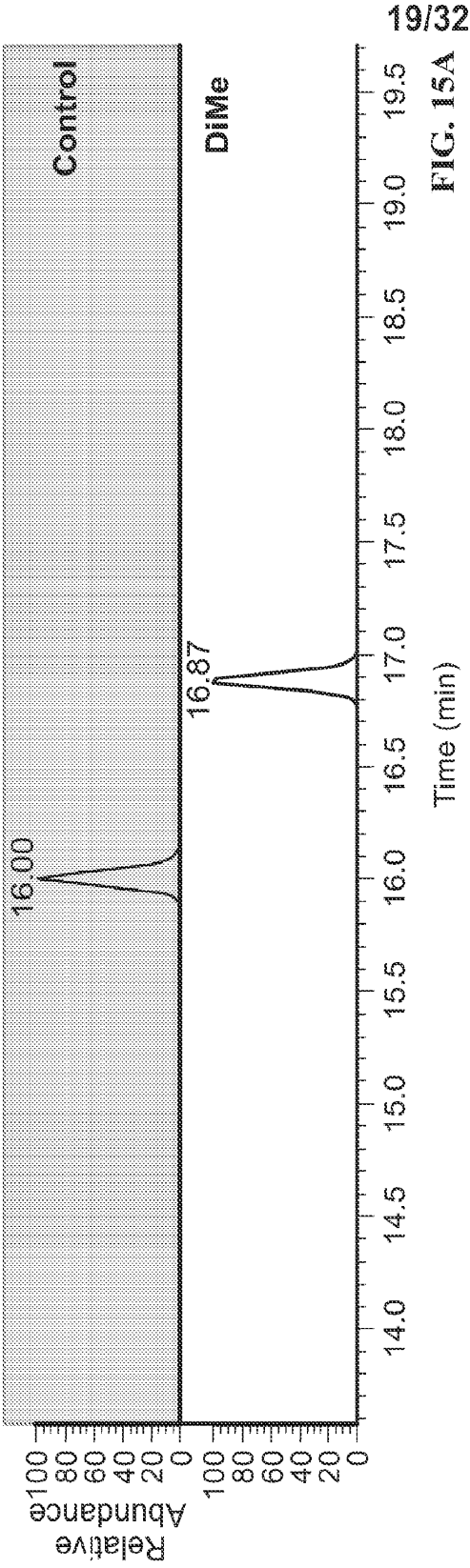


FIG. 13D









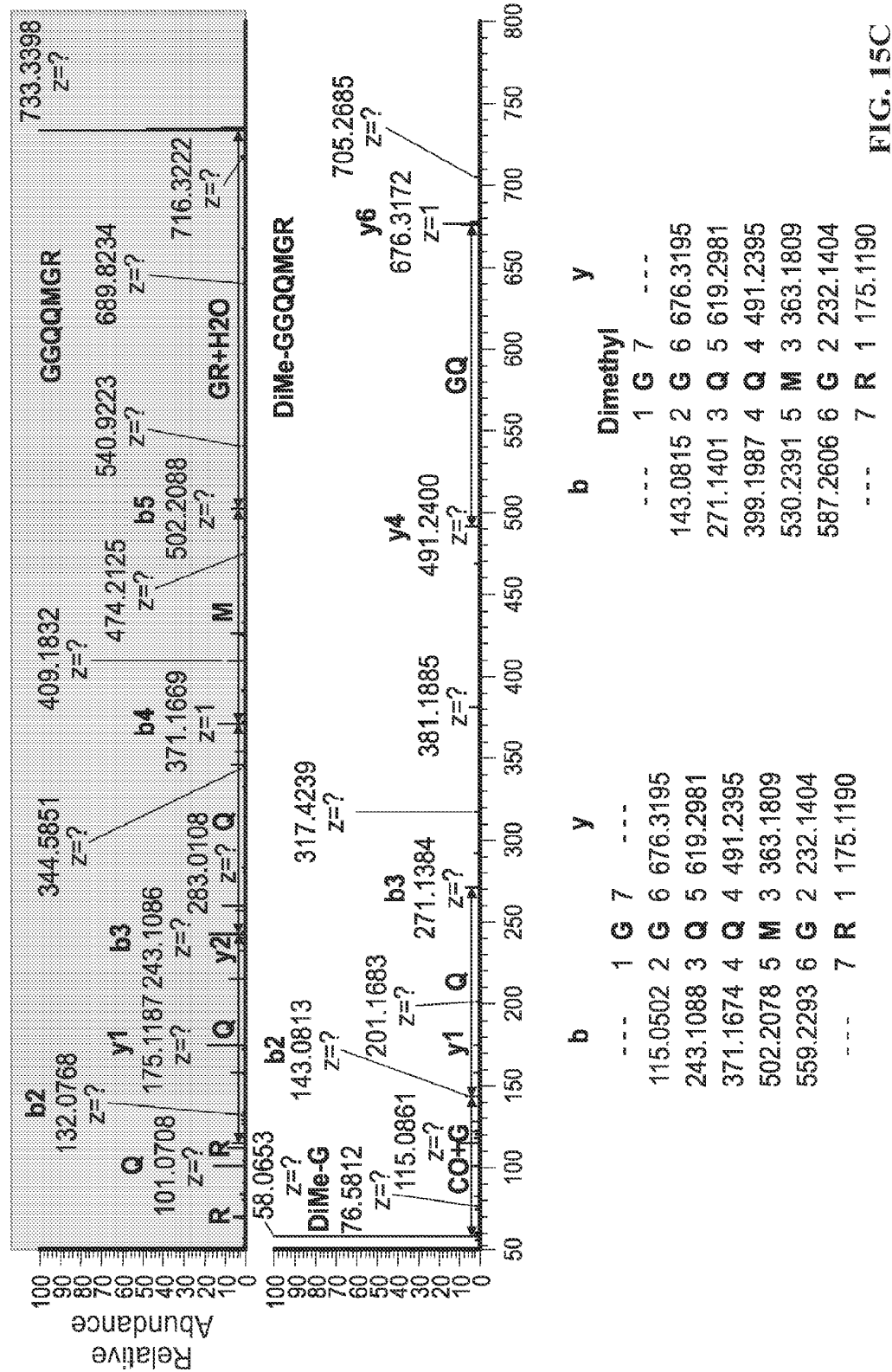


FIG. 15C

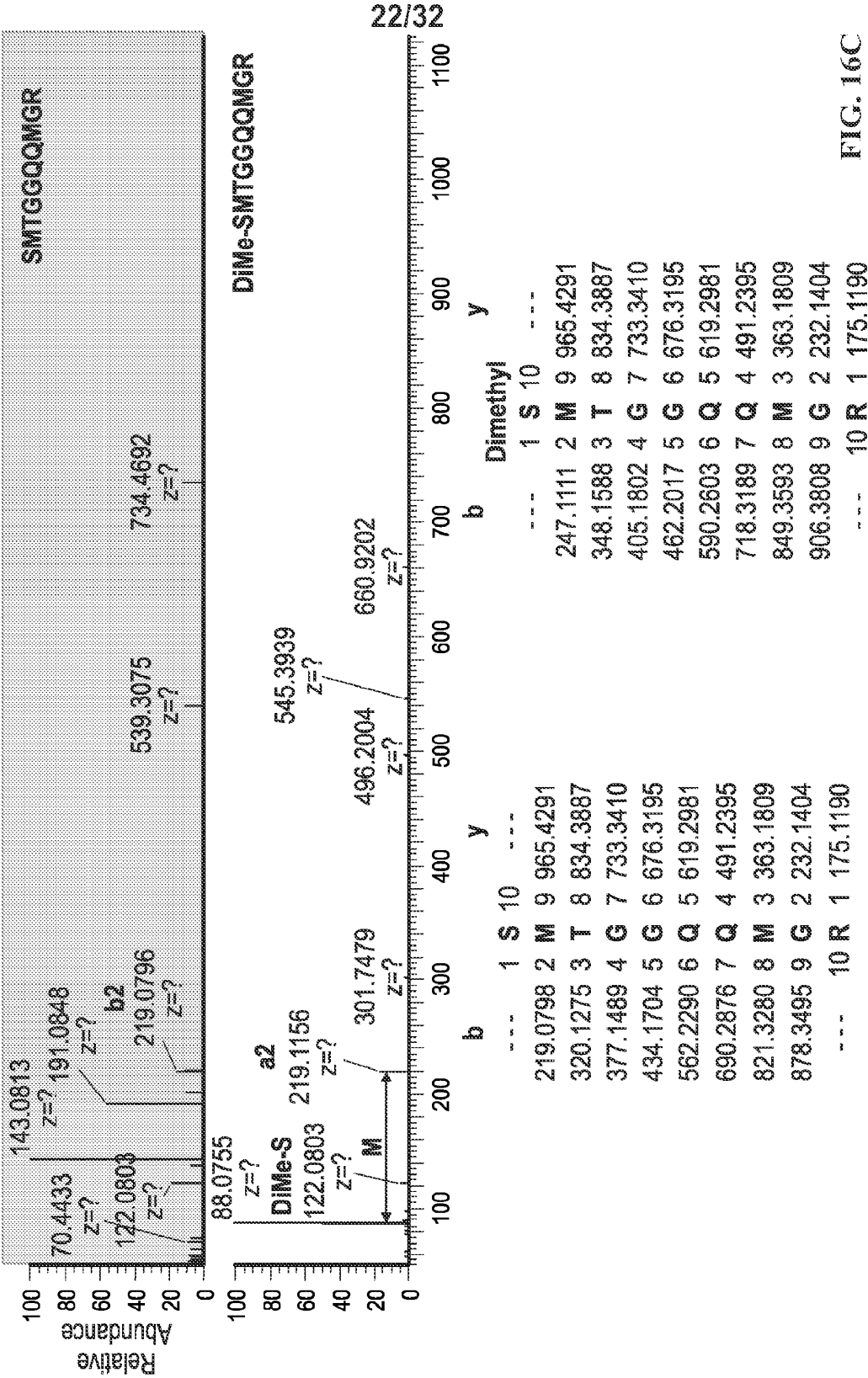
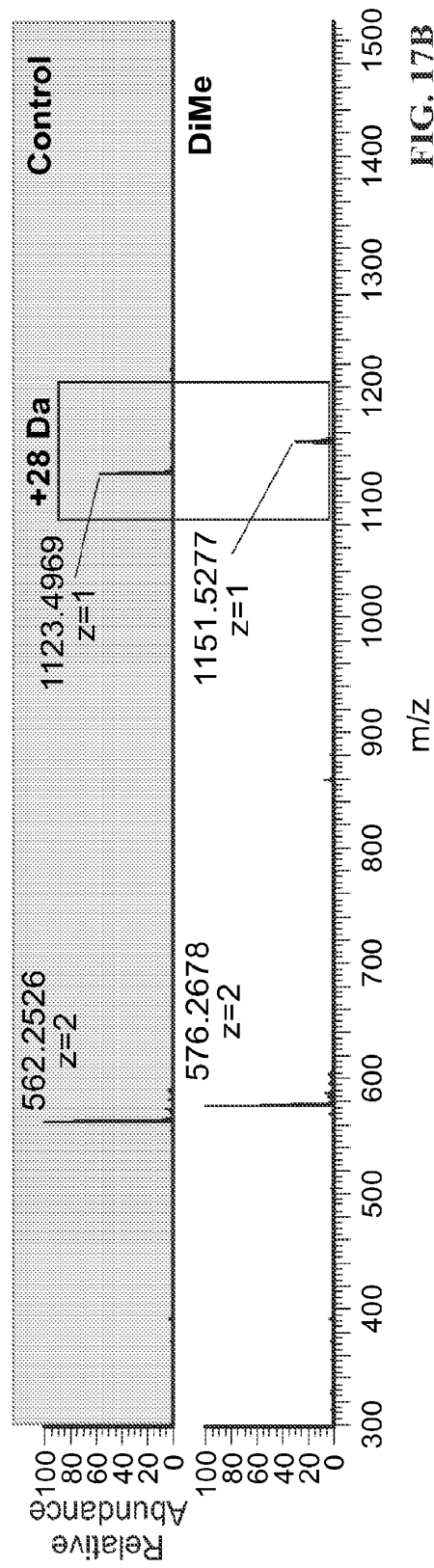
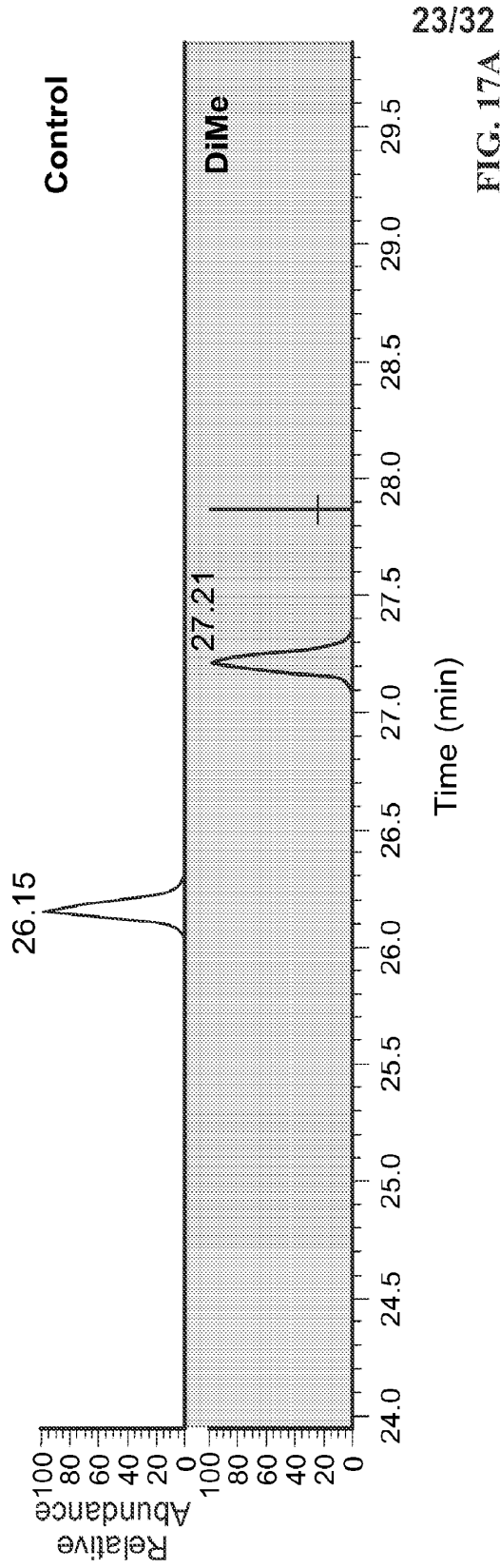
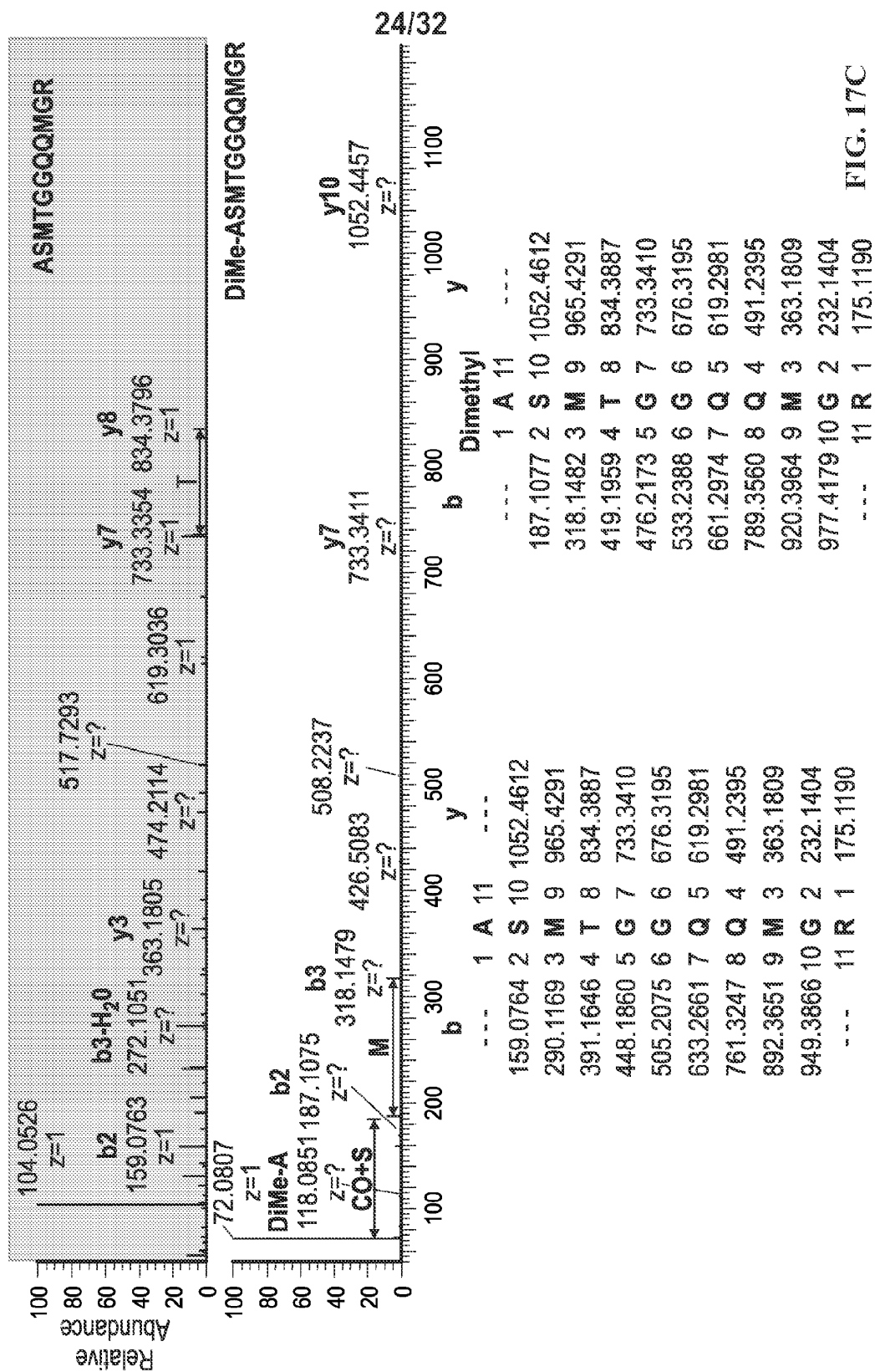
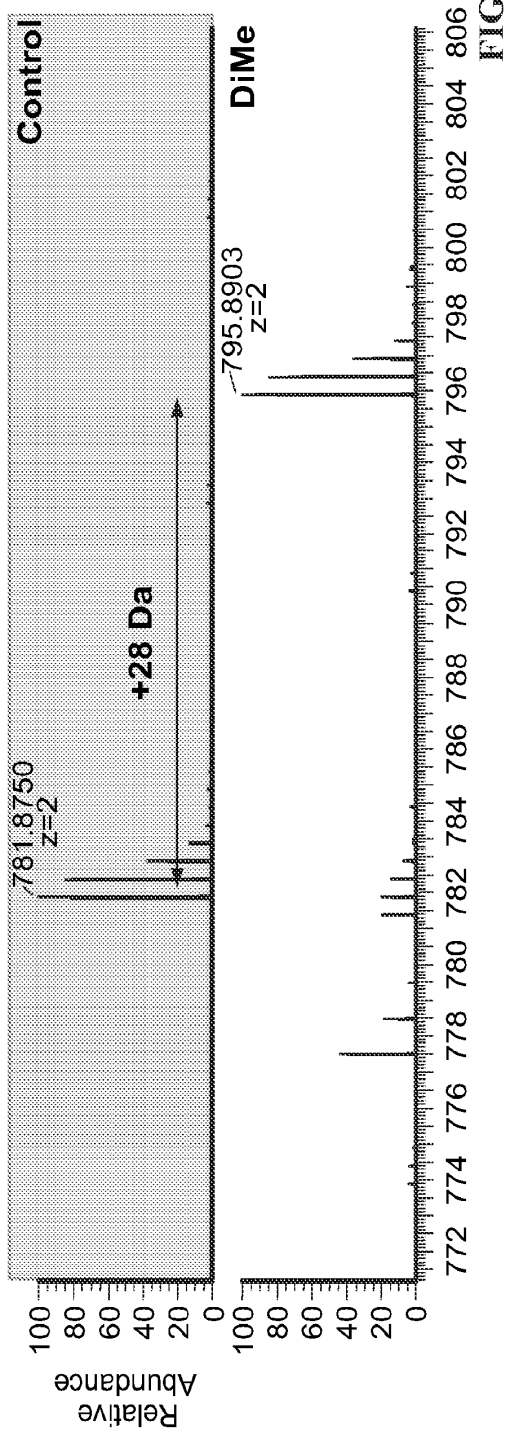
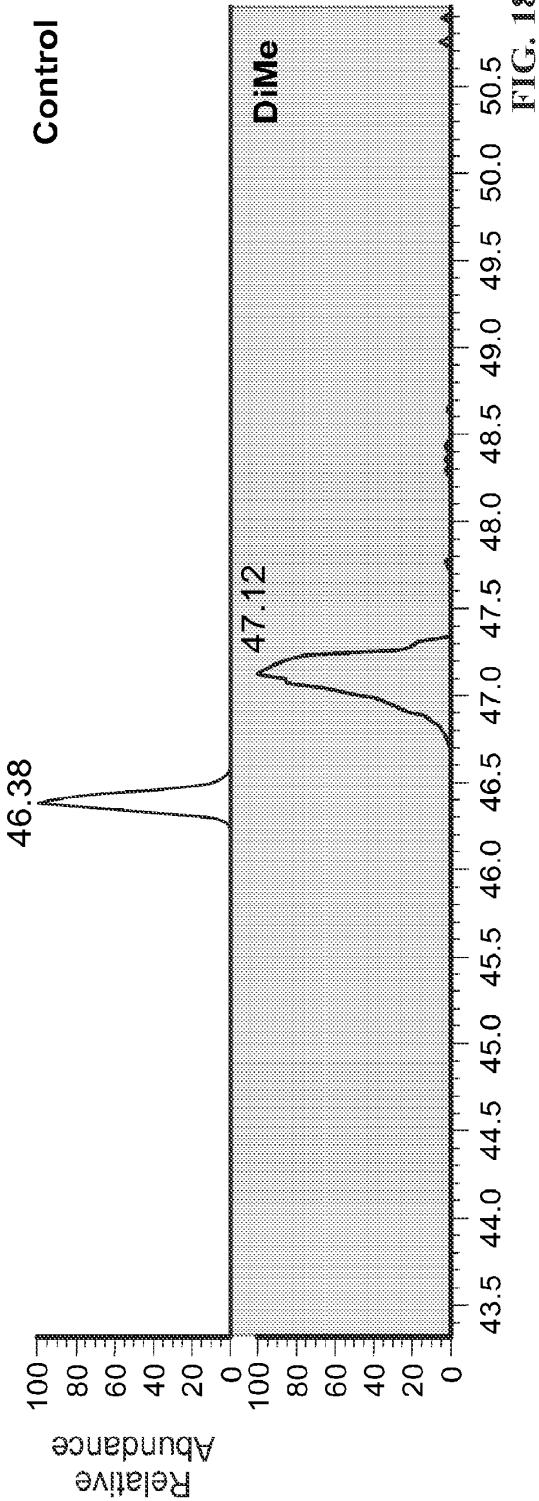


FIG. 16C







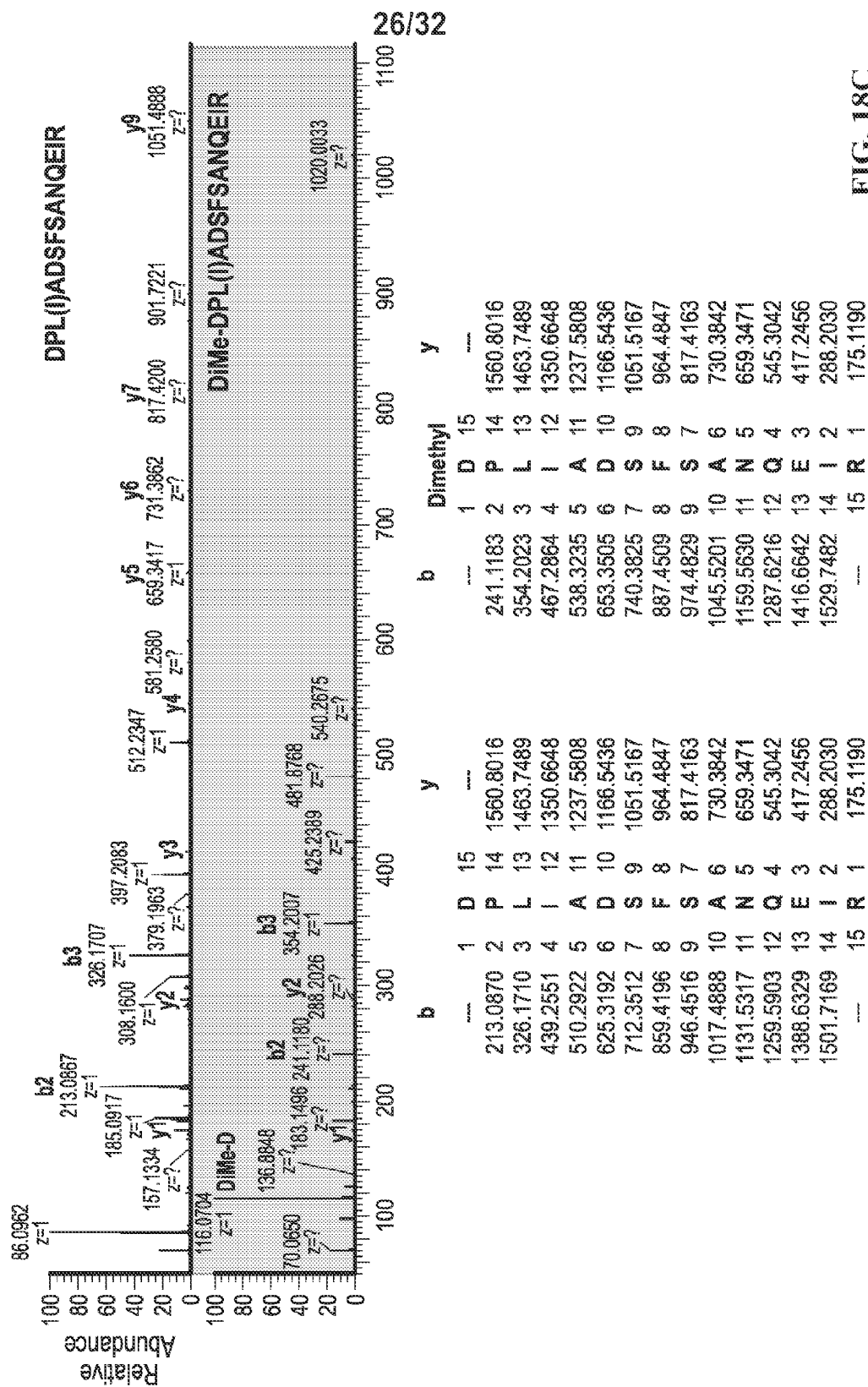
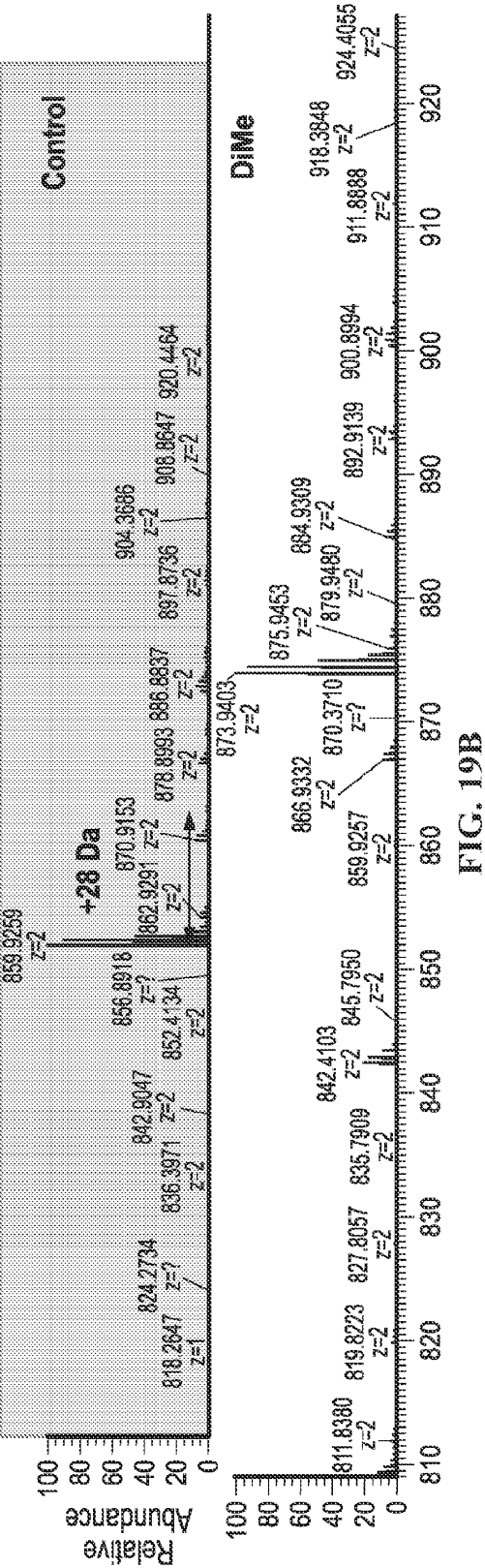
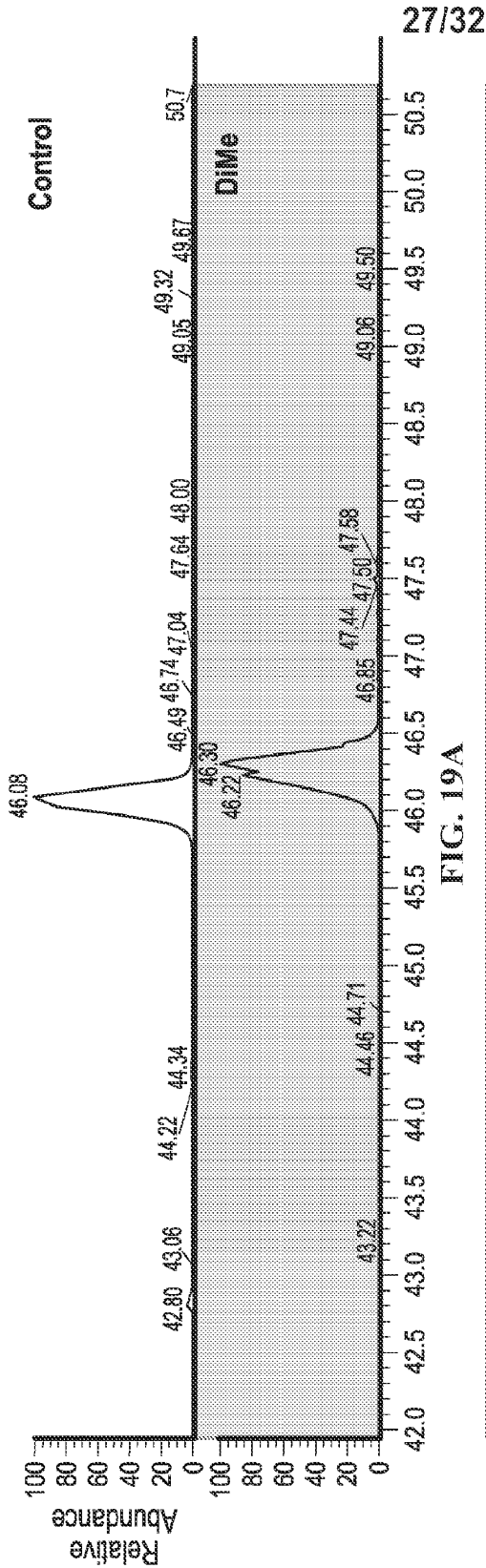


FIG. 18C



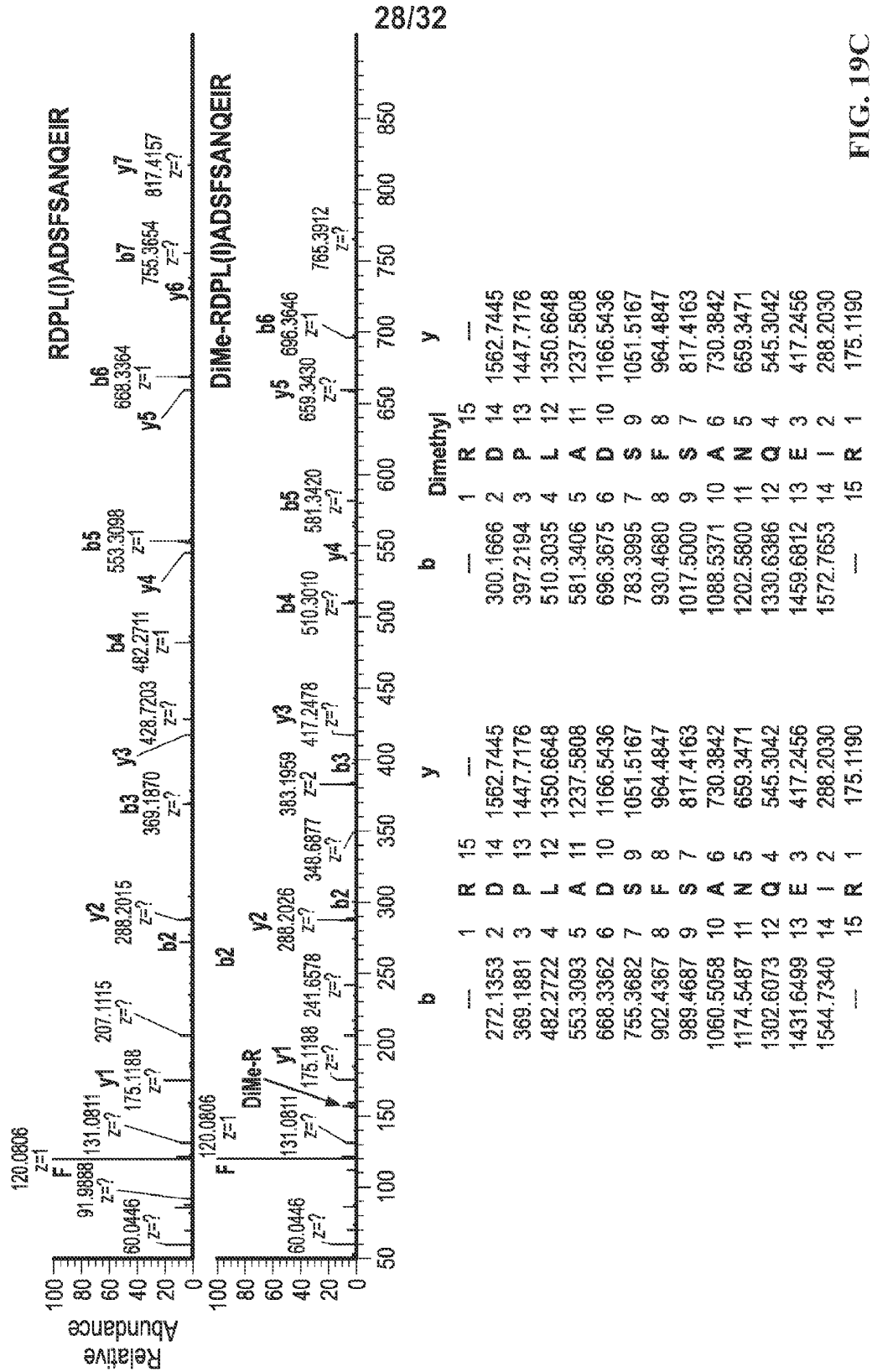
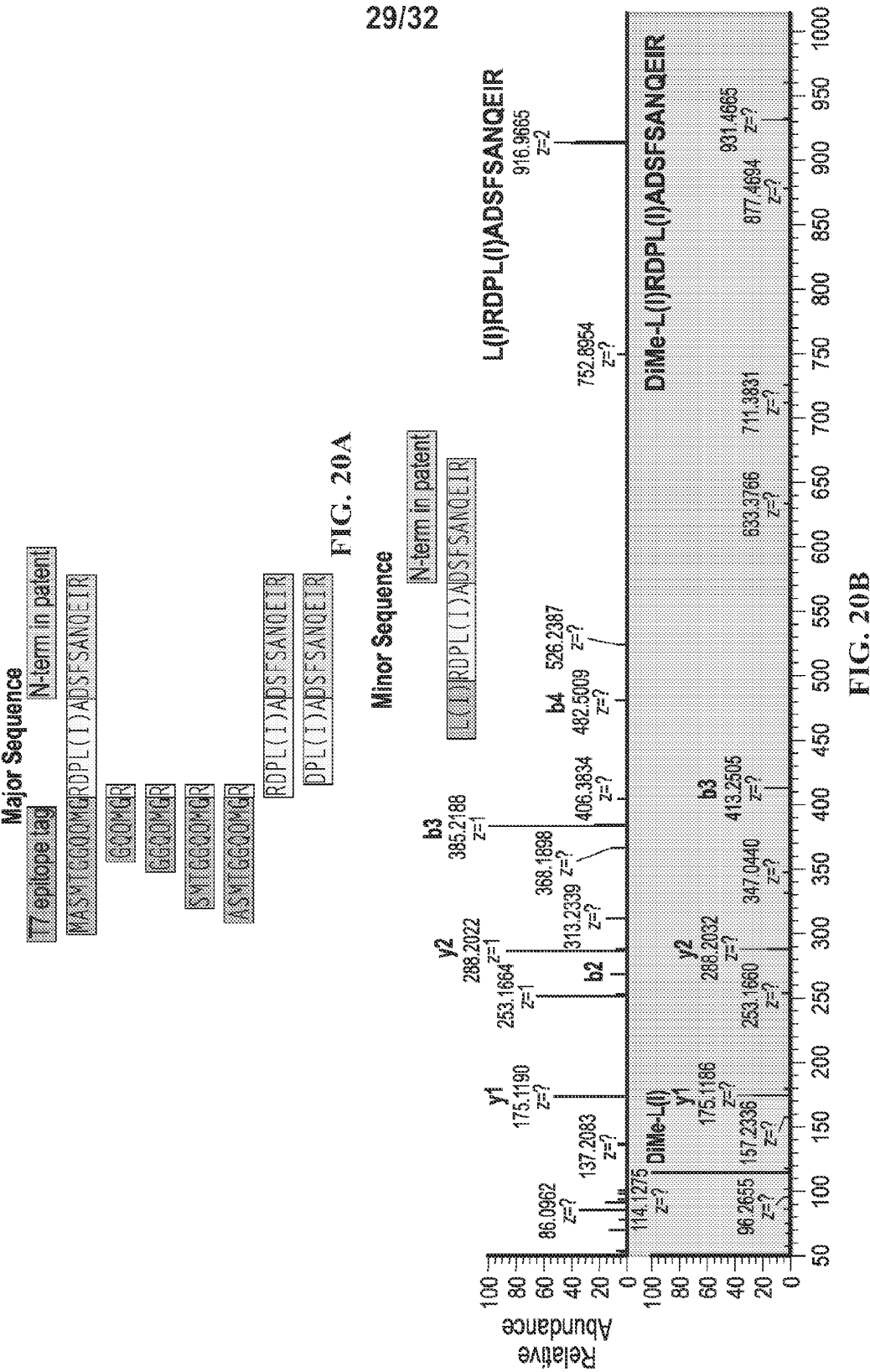


FIG. 19C



Major Sequence (335 Amino Acids, MW 37,725.4 Da)

MASMTGGQGMRRDPL(I)ADSFSANQEIRYSEVTPYHVTSWTKGVTPPANFTQGEDVFHAPYVAN
QGWYDITKTFNGKDDLLCGAATAGNMLHWFDQNKDKQKRYLEEHPKQKINFNGEQMFDVKEAID
TKNHQDSKLFYEFKEKAFPYLSTKHLGVFPDHDVDFMFGYRLSLTNHGPTPVKEGSKDPRGGIFDA
VFTRGDQSKLLTSRHDFFKEKNLKEISDLIKKELTEGKALGLSHTYANVRINHVINLWGADEFDSNGNLKA
IYVTDSDSNASIGMKKYFVGVSAGKVAISAKEIKEDNIGAQLGLFTLSTGQDSWNQTNHHHHHHXX
XX

Minor Sequence

RRDPL(I)ADSFSANQEIRYSEVTPYHVTSWTKGVTPPANFTQGEDVFHAPYVANQGWYDITKTFN
GKDDLLCGAATAGNMLHWFDQNKDKQKRYLEEHPKQKINFNGEQMFDVKEAIDTKNHQLDSKLF
EYFKEKAFPYLSTKHLGVFPDHDVDFMFGYRLSLTNHGPTPVKEGSKDPRGGIFDAVFTRGDQSKLL
TSRHDFFKEKNLKEISDLIKKELTEGKALGLSHTYANVRINHVINLWGADEFDSNGNLKAIYVTDSDSNAS
GMKKYFVGVSAGKVAISAKEIKEDNIGAQLGLFTLSTGQDSWNQTNHHHHHHHHXX

FIG. 20C

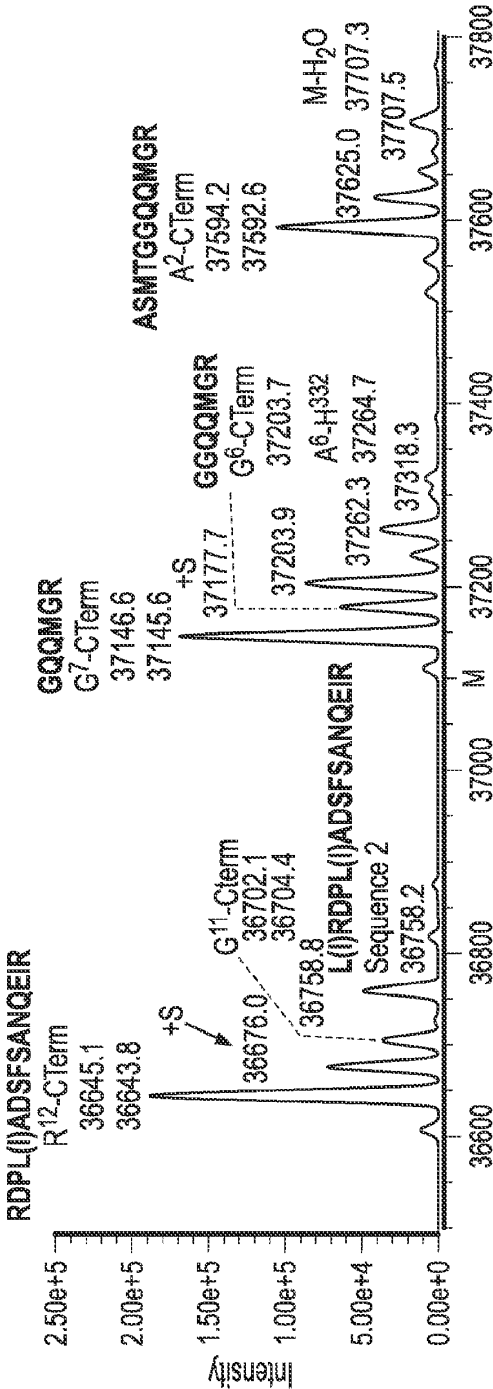


FIG. 20D

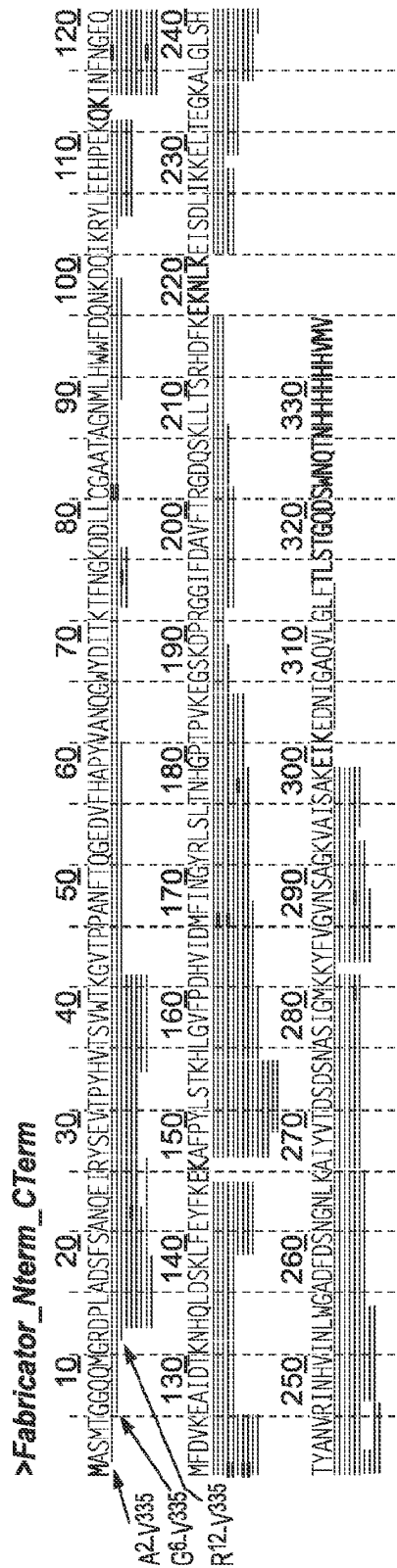


FIG. 20E

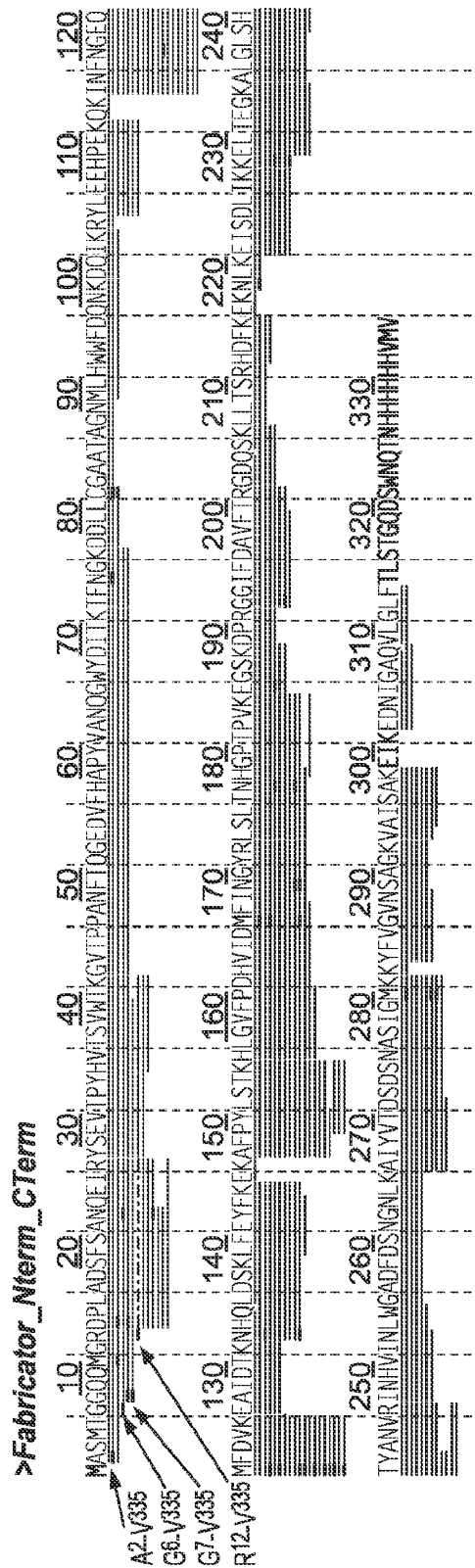


FIG. 20F

Ab1	Acetic Acid	HCHO	NaBH ₃ CN	Reaction time	Reaction temperature	Quench	Quench time	Quench Temperature	Labeling Efficiency -SDT
DTT/IAA- DiMe	1%	60 mM	24 mM	30 min	37 °C	NH ₂ OH	30 min	37 °C	99.1%

FIG. 21A

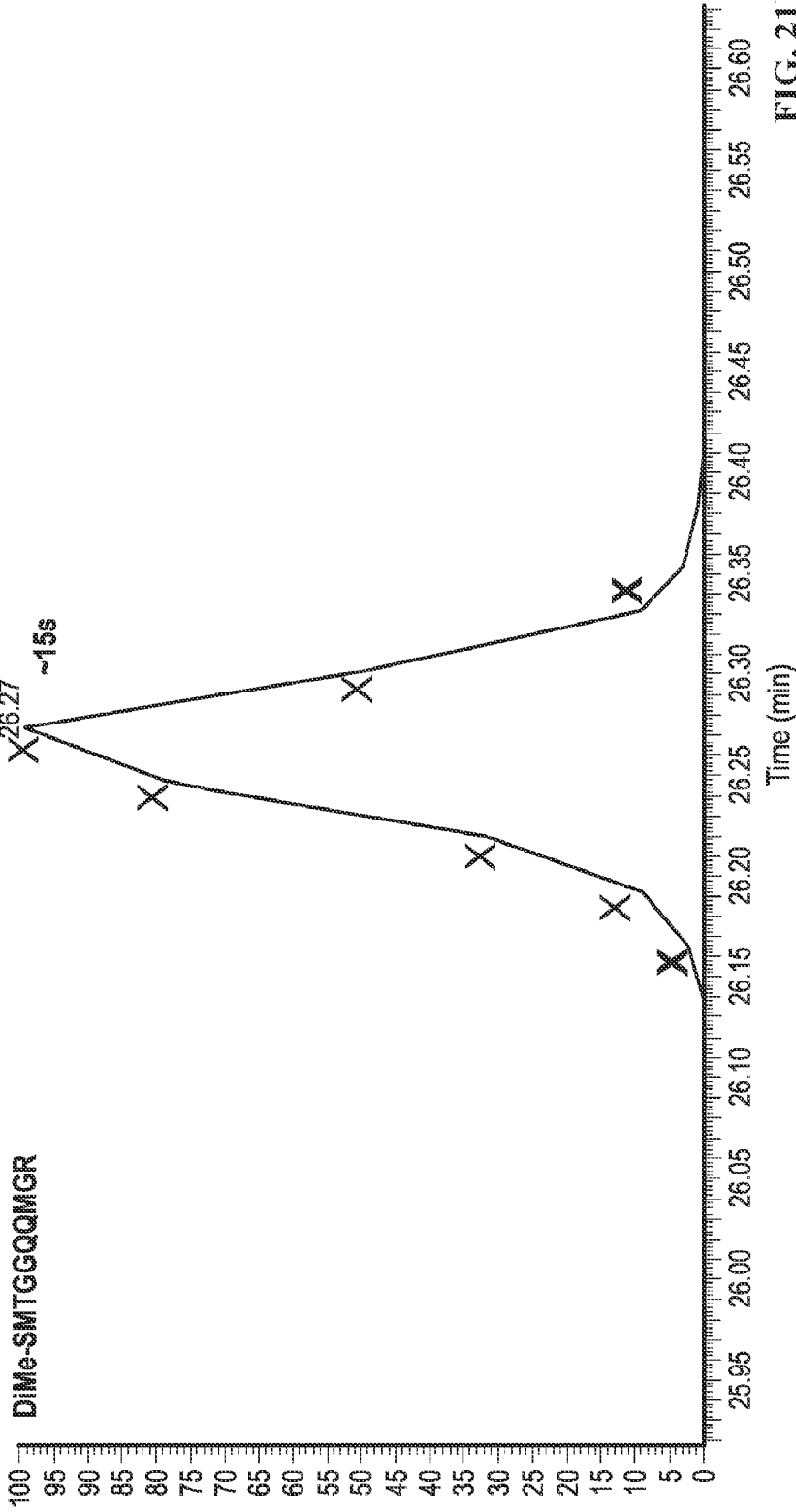


FIG. 21B