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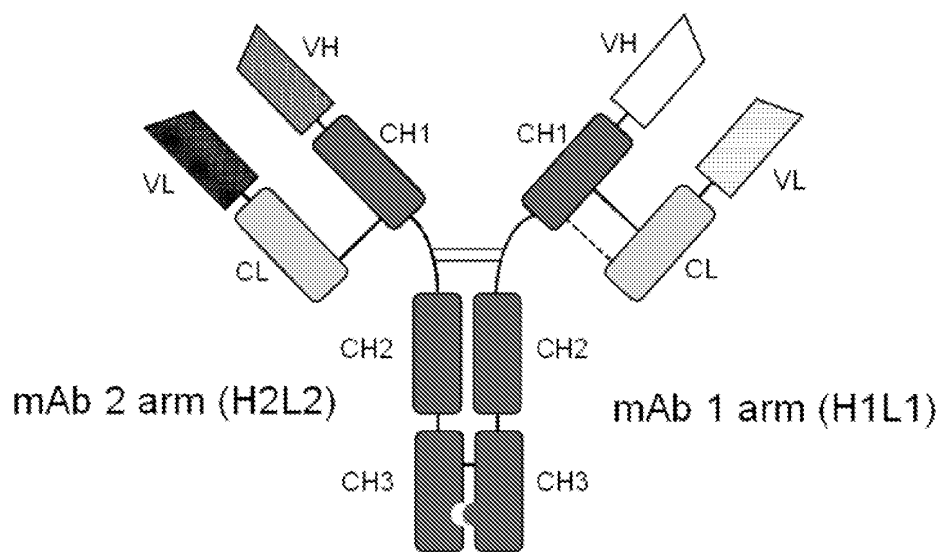


FIG. 1A

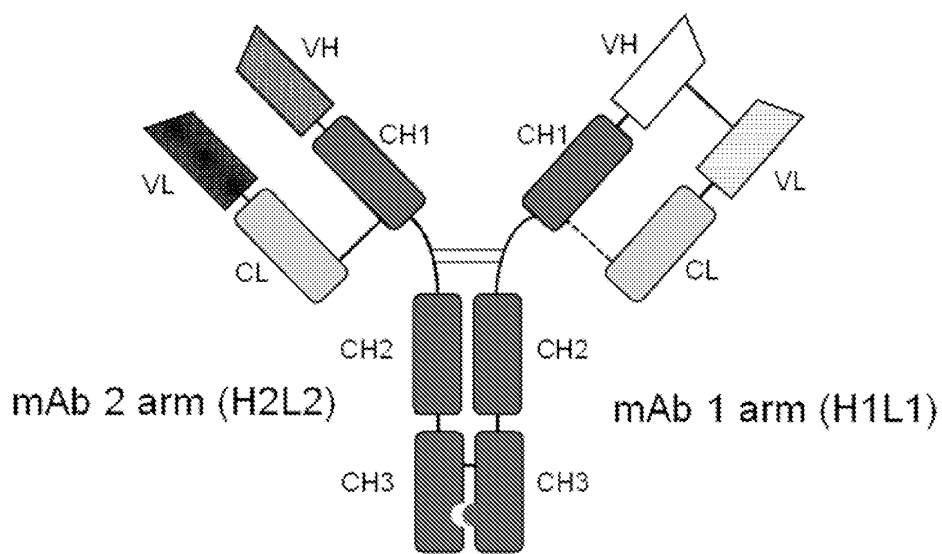


FIG. 1B

Region		FR1																							
Kabat number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
mAb 1		Q	V	Q	L	V	Q	S	G	A	E	V	K	K	P	G	A	S	V	K	V	S	C	K	A
mAb 2		E	V	Q	L	V	E	T	G	G	G	L	I	Q	P	G	G	S	L	R	L	S	C	A	A

Region		FR1												CDR1												FR2											
Kabat number		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48												
mAb 1		S	G	Y	T	F	T	S	Y	W	M	H	W	V	R	Q	A	P	G	Q	G	L	E	W	I												
mAb 2		S	G	F	T	F	S	D	F	G	M	H	W	I	R	Q	A	P	G	K	G	L	E	W	V												

Region		CDR2												FR3											
Kabat number		49	50	51	52	52a	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
mAb 1		G	N	I	D	P	S	D	S	E	T	H	Y	A	Q	K	F	Q	G	R	V	T	L	T	V
mAb 2		A	Y	M	S	Y	T	P	G	T	F	H	Y	A	D	T	V	K	D	R	F	T	I	S	R

Region		FR3												FR4											
Kabat number		72	73	74	75	76	77	78	79	80	81	82	82a	82b	82c	83	84	85	86	87	88	89	90	91	92
mAb 1		D	K	S	T	S	T	V	Y	M	E	L	S	S	L	R	S	E	D	T	A	V	Y	Y	C
mAb 2		D	N	S	K	N	T	L	Y	L	Q	M	N	S	L	R	A	E	D	T	A	V	Y	Y	C

Region		CDR3												FR4											
Kabat number		93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113			
mAb 1		A	G	T	D	L	-	-	-	A	Y	W	G	Q	G	T	L	V	T	V	S	S			
mAb 2		A	R	V	H	V	G	T	V	D	Y	W	G	Q	G	T	L	V	T	V	S	S			

FIG. 2A

Region		CHI																							
EU number		118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141
maB 1		A	S	T	K	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	T	A	A	
maB 2		A	S	T	K	G	P	S	V	F	P	L	A	P	S	S	K	S	T	S	G	T	A	A	

Region		CHI																							
EU number		142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165
maB 1		L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W	N	S	G	A	L	T	S
maB 2		L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W	N	S	G	A	L	T	S

Region		CHI																							
EU number		166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189
maB 1		G	V	H	T	F	P	A	V	L	Q	S	S	G	L	Y	S	L	S	S	V	V	T	V	P
maB 2		G	V	H	T	F	P	A	V	L	Q	S	S	G	L	Y	S	L	S	S	V	V	T	V	P

Region		CHI																							
EU number		190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213
maB 1		S	S	S	L	G	T	Q	T	Y	I	C	N	V	N	H	K	P	S	N	T	K	V	D	K
maB 2		S	S	S	L	G	T	Q	T	Y	I	C	N	V	N	H	K	P	S	N	T	K	V	D	K

Region		CHI			
EU number		214	215	216	217
maB 1		K*	V	E	P
maB 2		K*	V	E	P

FIG. 2B

Region	FR1																								CDR1
Kabat number	1	2	3	4	5	6	7	9	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	CDR1
mAb 1	E	I	V	L	T	Q	S	P	G	T	L	S	L	S	P	G	E	R	A	T	L	S	C	H	
mAb 2	E	V	V	L	T	Q	S	P	A	T	L	S	L	S	P	G	E	R	A	T	L	S	C	S	

Region	CDR1												FR2												CDR1
Kabat number	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
mAb 1	A	S	Q	N	I	N	V	W	L	S	W	Y	Q	Q	K	E	G	Q	A	P	R	L	L	I	
mAb 2	A	S	Q	N	I	N	N	N	L	R	W	F	Q	Q	K	E	G	Q	A	P	R	L	L	I	

Region	CDR2						FR3						CDR3												
Kabat number	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	
mAb 1	Y	K	A	S	N	L	H	T	G	I	P	D	R	F	S	G	S	G	S	G	T	D	F	T	
mAb 2	K	Y	A	S	Q	S	I	S	G	I	P	A	R	F	S	G	S	G	S	G	T	D	F	T	

Region	FR3												CDR3												
Kabat number	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	95a	
mAb 1	L	T	I	S	R	L	E	P	E	D	F	A	V	Y	Y	C	Q	Q	G	Q	S	Y	P	-	
mAb 2	L	T	I	S	S	L	E	P	E	D	F	A	V	Y	Y	C	Q	Q	S	N	S	W	P	A	

Region	CDR3						FR4					
Kabat number	96	97	98	99	100	101	102	103	104	105	106	107
mAb 1	F	T	F	G	Q	G	T	K	V	E	I	K
mAb 2	L	T	F	G	Q	G	T	K	V	E	I	K

FIG. 2C

Region		CL																							
EU number		108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131
mAb 1	R	T	V	A	A	A	P	S	V	E	I	F	P	P	S	D	E	Q	L	K	S	G	T	A	S
mAb 2	R	T	V	A	A	A	P	S	V	F	I	F	P	P	S	D	E	Q	L	K	S	G	T	A	S

Region		CL																							
EU number		132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155
mAb 1	V	V	C	L	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A*	L	Q
mAb 2	V	V	C	L	L	L	N	N	F	Y	P	R	E	A	K	V	Q	W	K	V	D	N	A*	L	Q

Region		CL																							
EU number		156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179
mAb 1	S	G	N	S	Q	E	S	S	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L
mAb 2	S	G	N	S	Q	E	S	S	V	T	E	Q	D	S	K	D	S	T	Y	S	L	S	S	T	L

Region		CL																							
EU number		180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203
mAb 1	T	L	S	K	A	A	D	Y	E	K	H	K	V*	Y	A	C	E	V	T	H	Q	G	L	S	S
mAb 2	T	L	S	K	A	A	D	Y	E	K	H	K	V*	Y	A	C	E	V	T	H	Q	G	L	S	S

Region		CL							
EU number		204	205	206	207	208	209	210	211
mAb 1	F	V	T	K	S	F	N	R	G
mAb 2	F	V	T	K	S	F	N	R	G

FIG. 2D

Region		CHI																										
EU number		118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141			
IgG2		A	S	T	K	G	F	S	V	F	P	L	A	P	C	S	R	S	T	S	E	S	T	A	A			
IgG3		A	S	T	K	G	P	S	V	F	F	L	A	P	C	S	R	S	T	S	G	G	T	A	A			
IgG4		A	S	T	K	G	P	S	V	F	P	L	A	P	C	S	R	S	T	S	E	S	T	A	A			

EU number		142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165			
IgG2		L	G	C	L	V	K	D	Y	F	F	E	P	V	T	V	S	W	N	S	G	A	L	T	S			
IgG3		L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W	N	S	G	A	L	T	S			
IgG4		L	G	C	L	V	K	D	Y	F	P	E	P	V	T	V	S	W	N	S	G	A	L	T	S			

Region		CHI																										
EU number		166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189			
IgG2		G	V	H	T	F	F	A	V	L	Q	S	S	G	L	Y	S	L	S	S	V	V	T	V	P*			
IgG3		G	V	H	T	F	F	A	V	L	Q	S*	S	G	L	Y	S	L	S	S	V	V	T	V	P			
IgG4		G	V	H	T	F	F	A	V	L	Q	S	S	G	L	Y	S	L	S	S	V	V	T	V	P			

Region		CHI																										
EU number		190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213			
IgG2		S	S	N*	F*	G	T	Q	T	Y	T	C	N	V	D	R	K	P	S	N	T	K	V	D	K			
IgG3		S	S	S*	L*	G	T	Q	T	Y	T	C	N	V	D	H	K	P	S	N	T	K	V	D	K			
IgG4		S	S	S	L	G	T	K	T	Y	T	C	N	V	D	H	K	P	S	N	T	K	V	D	K			

Region		CHI				
EU number		214	215	216	217	218
IgG2		T	V	E	R	K
IgG3		R	V	E	L	K
IgG4		R	V	E	S	K

FIG. 2E

Region		CL																							
EU number		108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131
Lambda CL		Q	P	K	A	A*	F	S*	V	T	L	F	P	F	S	S	E	E	L	Q	A	N	K	A	T

Region		CL																							
EU number		132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153		154
Lambda CL		L	V	C	L	I	S	D	F	Y	F	G	A	V	T	V	A	W	K	A	D	S*	S	P	V

Region		CL																							
EU number		155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178
Lambda CL		K	A	G			V	E	T	T	T*	P	S	E	Q	S	W	N	K	Y	A	A	S	S	Y

Region		CL																							
EU number		179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202
Lambda CL		L	S	L	T	P	E	Q	W	K	S	H	R*	S	Y	S	C	Q	V	T	H	E	G		

Region		CL											
EU number		203	204	205	206	207	208	209	210	211	212	213	214
Lambda CL		S	T	V	E	K	T	V	A	P	T	E	C

FIG. 2F

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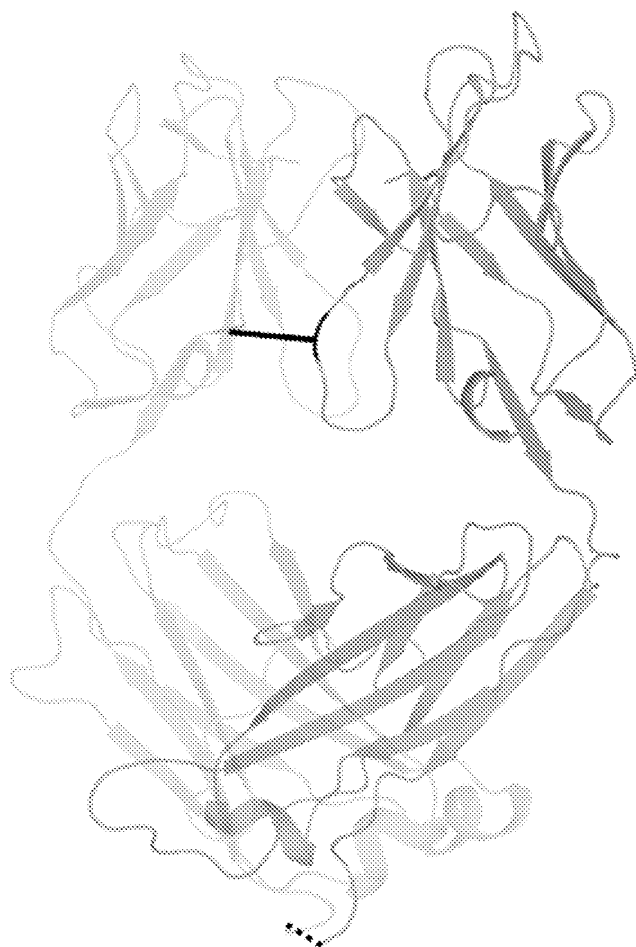


FIG. 3A

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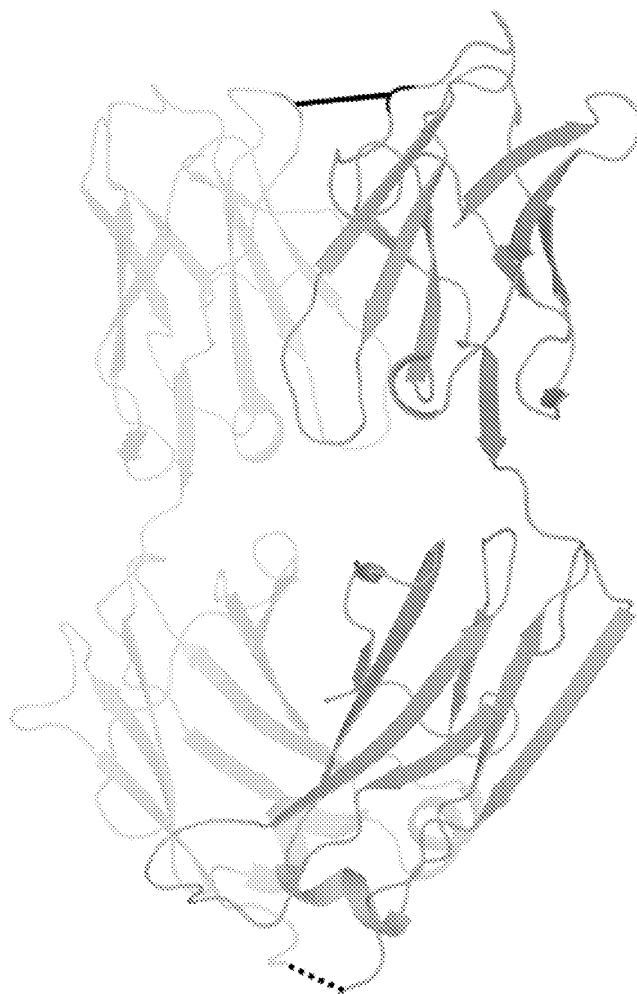


FIG. 3B

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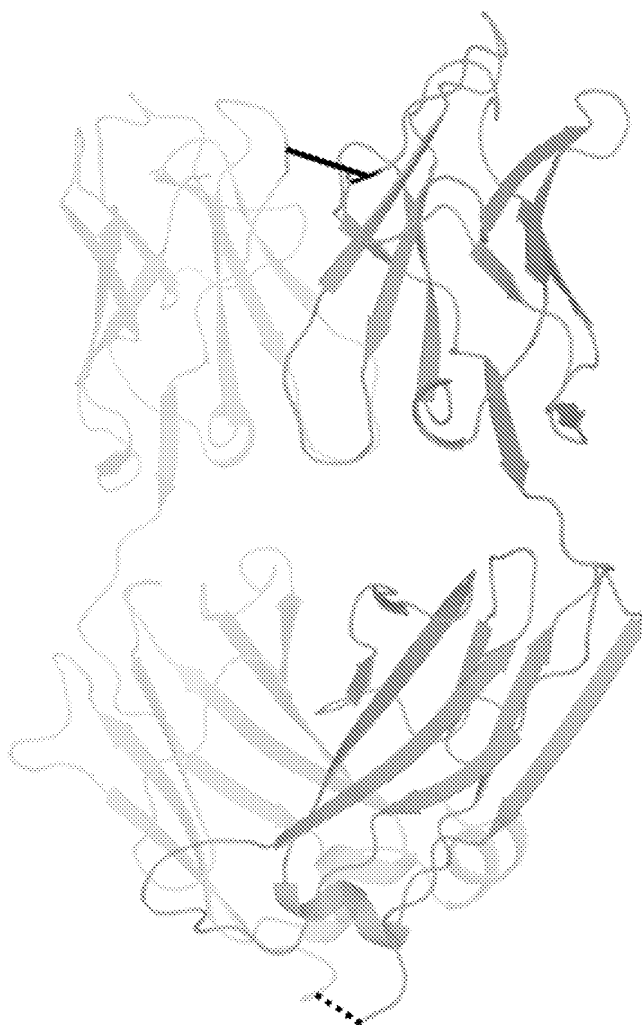


FIG. 3C

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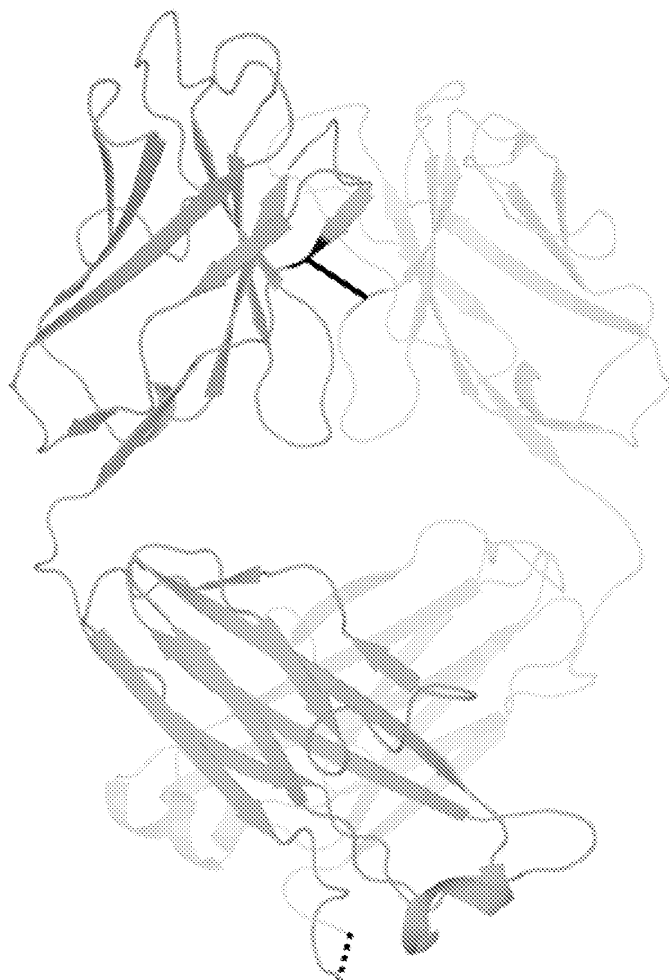


FIG. 3D

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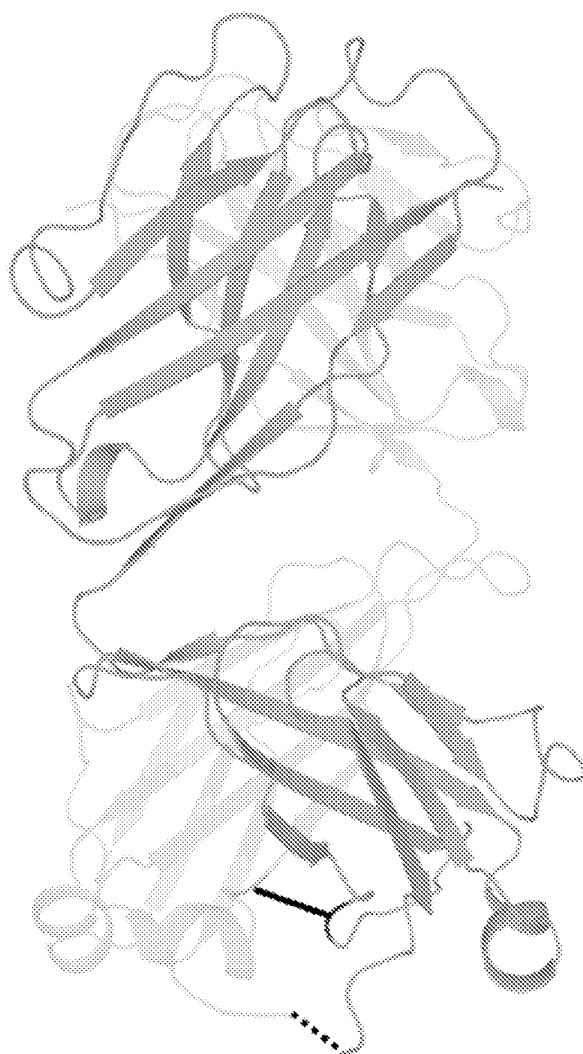


FIG. 3E

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FIG. 3F

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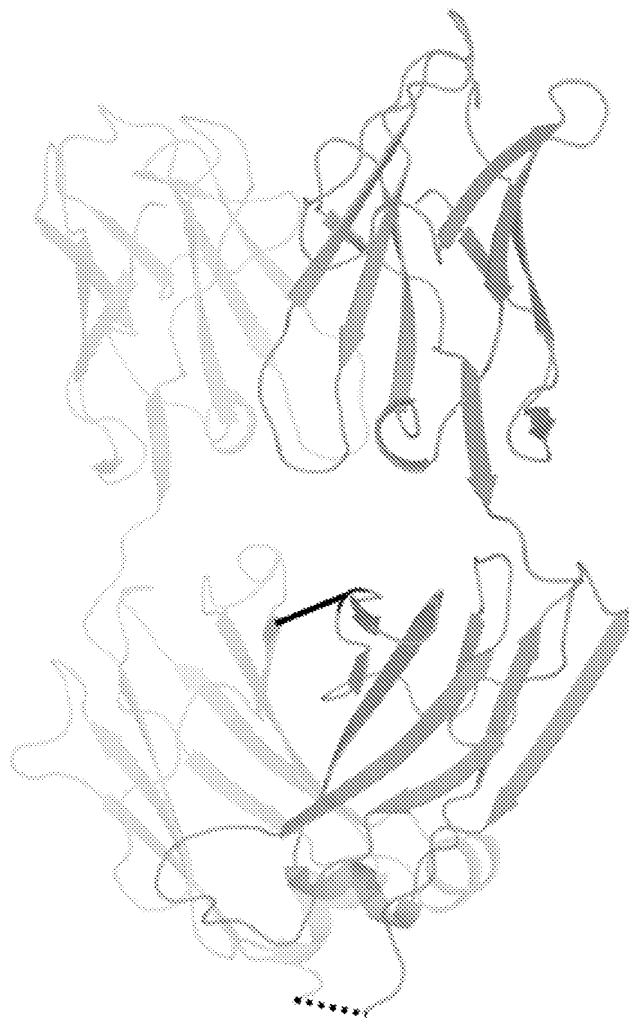


FIG. 3G

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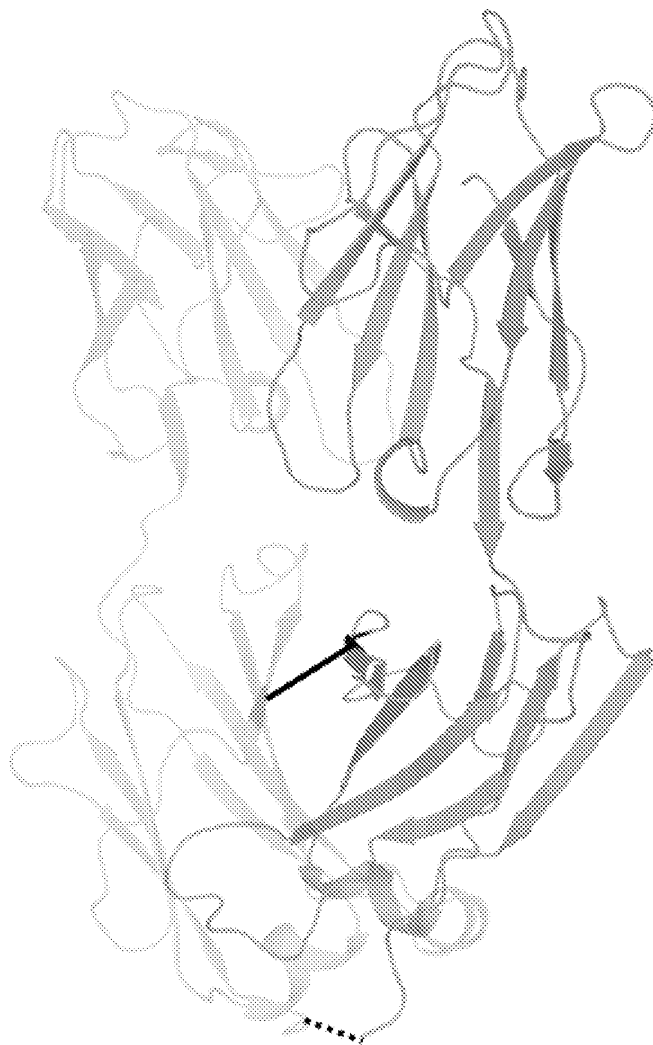


FIG. 3H

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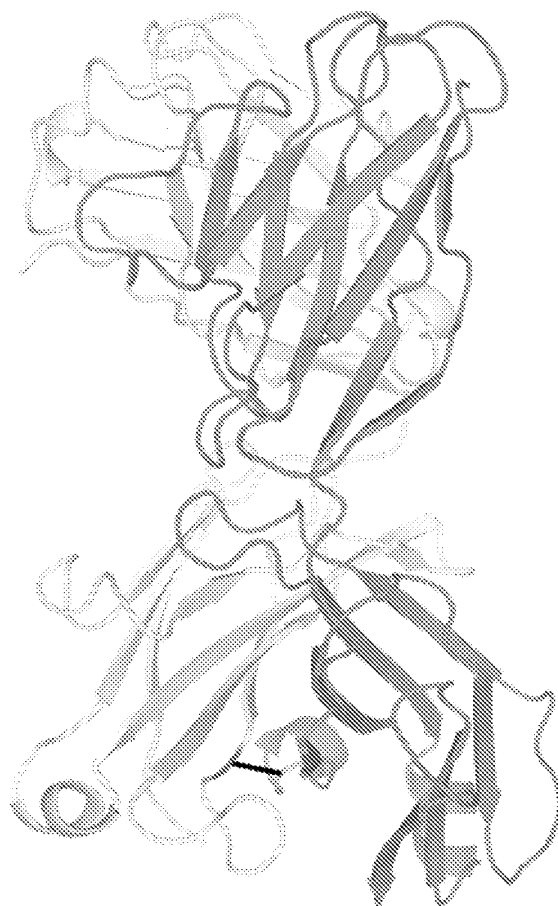


FIG. 3I

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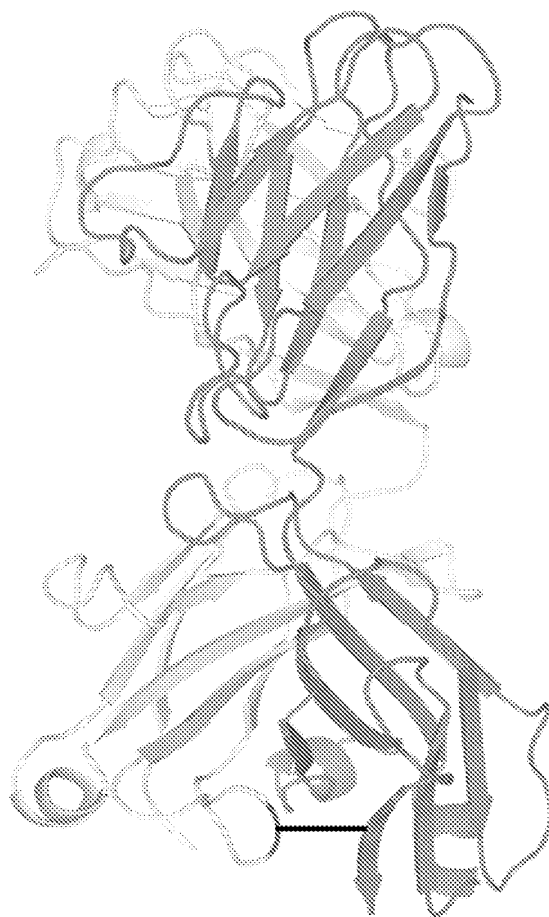


FIG. 3J

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FIG. 3K

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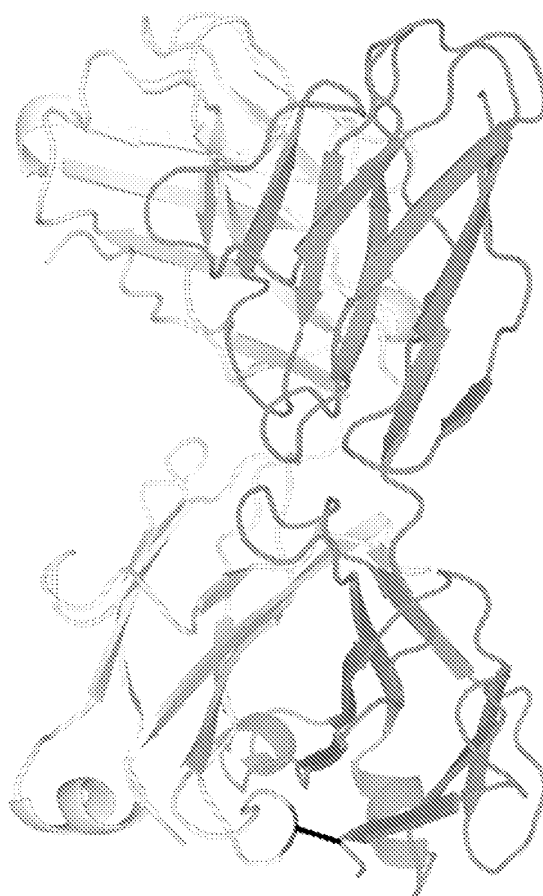


FIG. 3L

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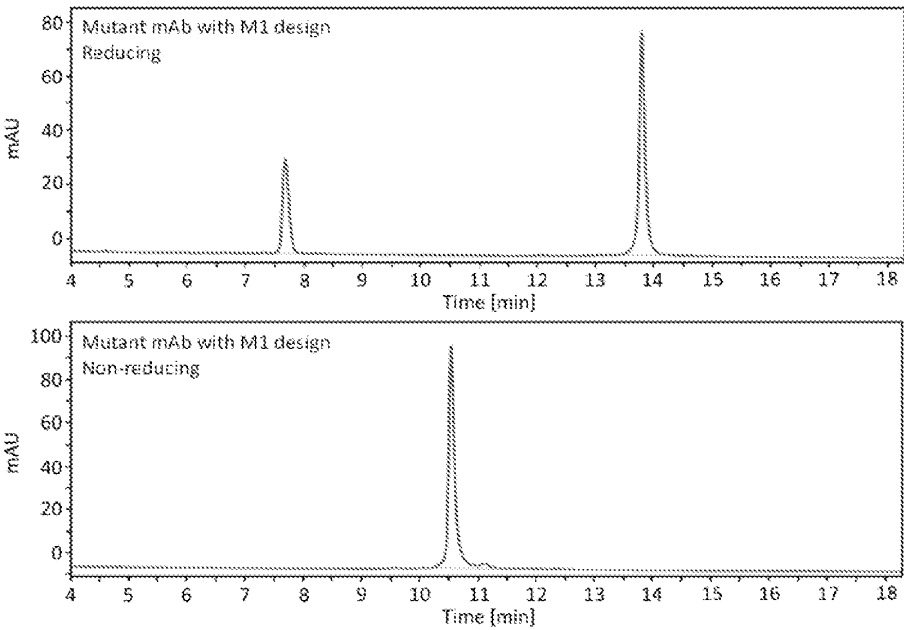


FIG. 4A

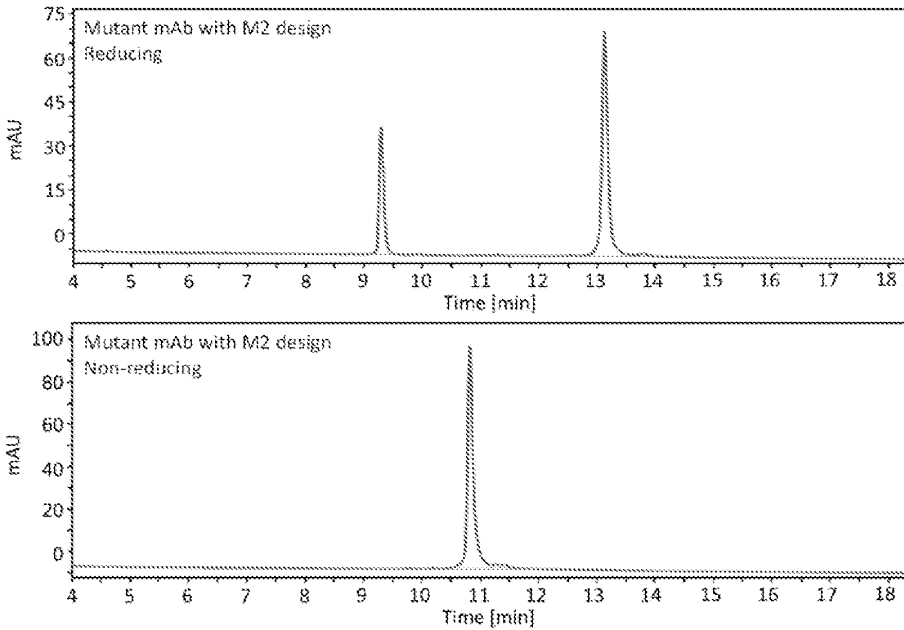


FIG. 4B

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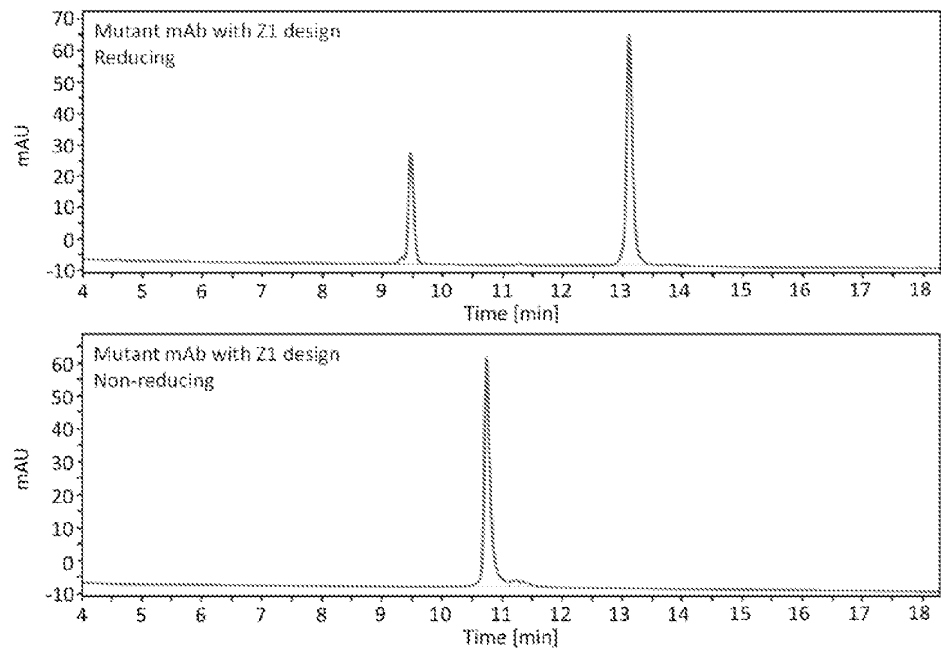


FIG. 4C

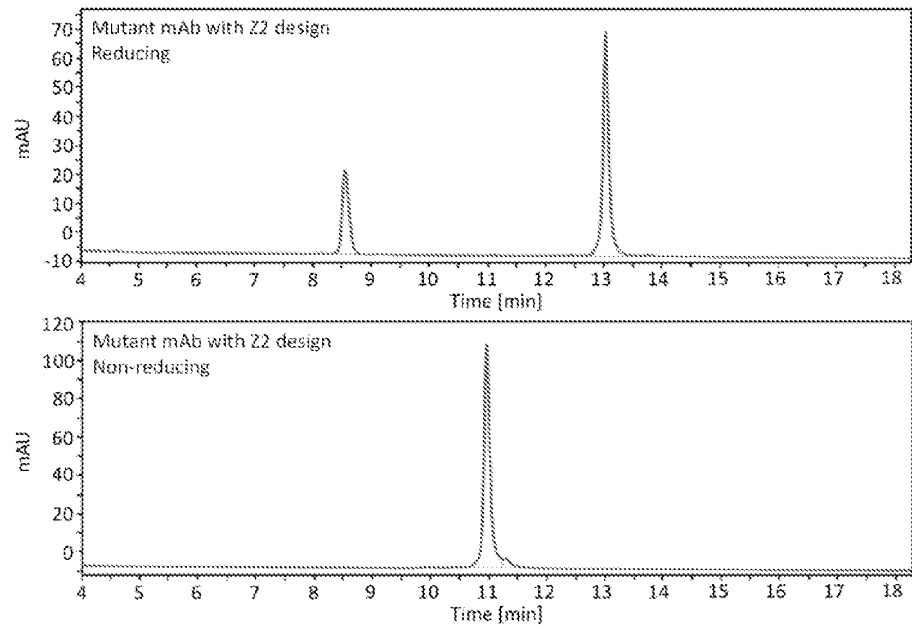


FIG. 4D

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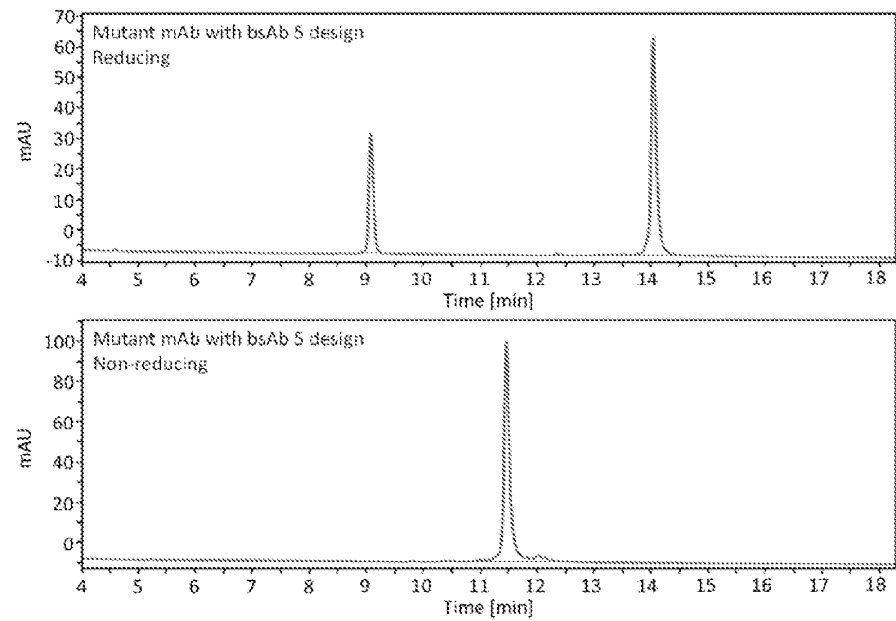


FIG. 4E

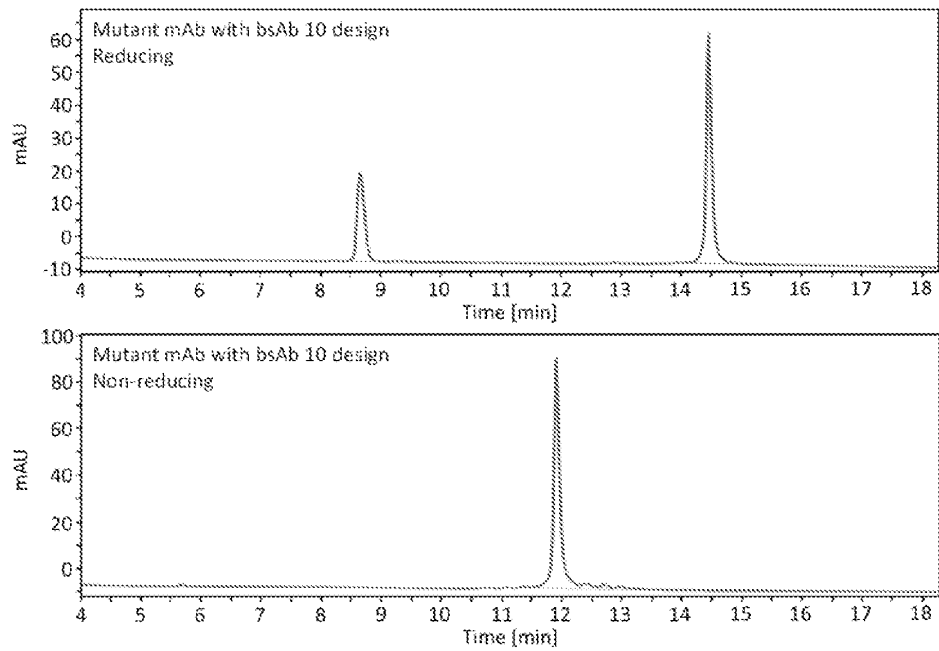


FIG. 4F

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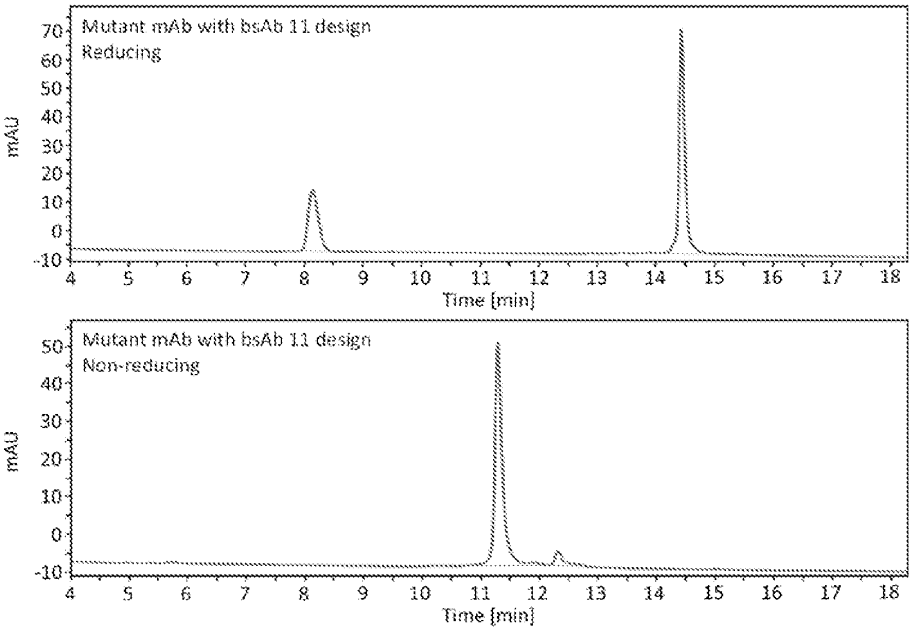


FIG. 4G

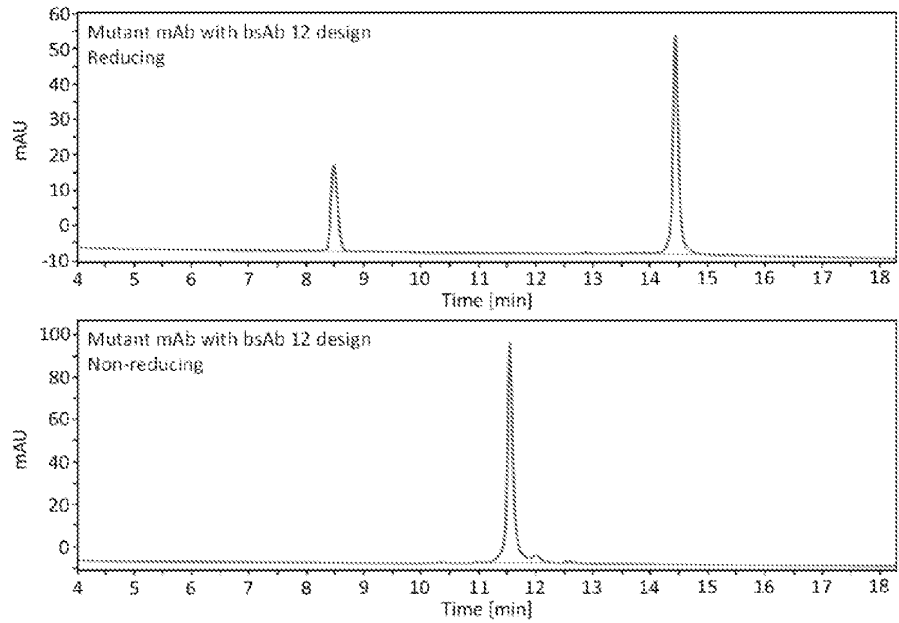


FIG. 4H

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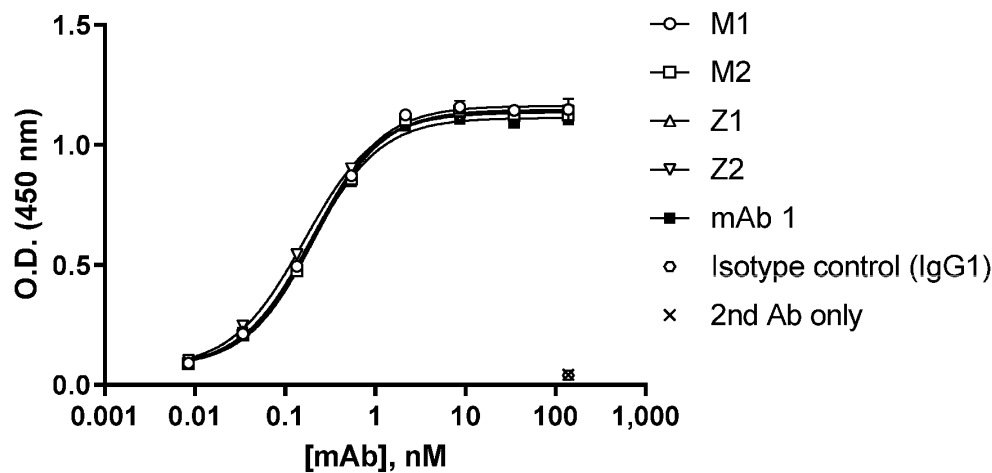


FIG. 4I

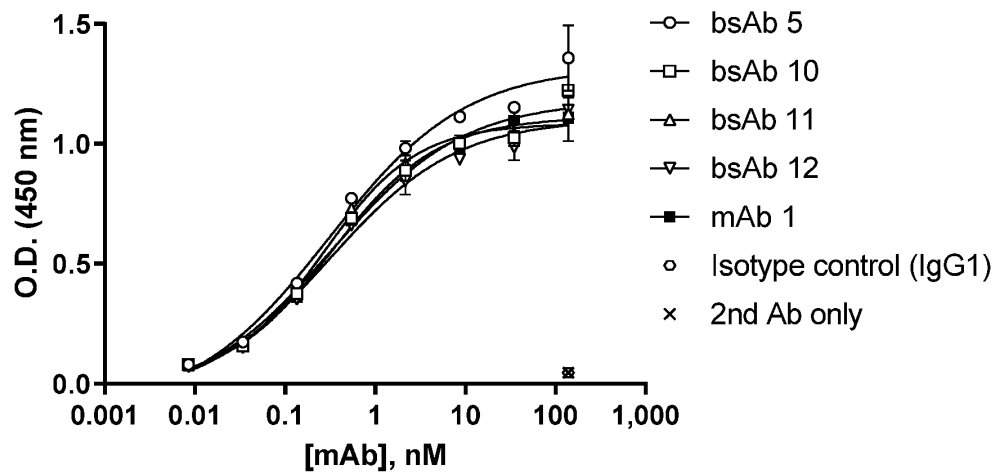


FIG. 4J

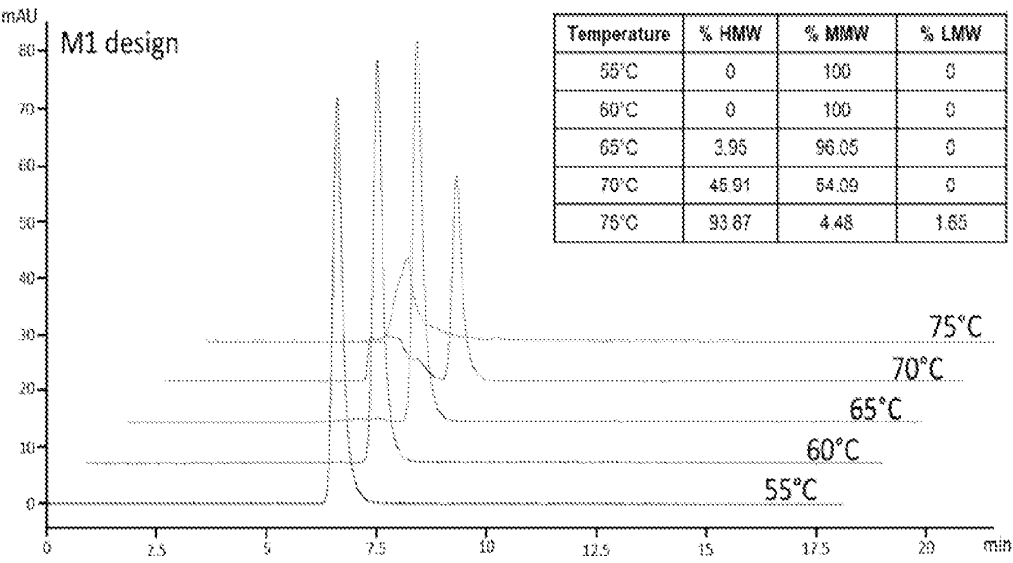


FIG. 5A

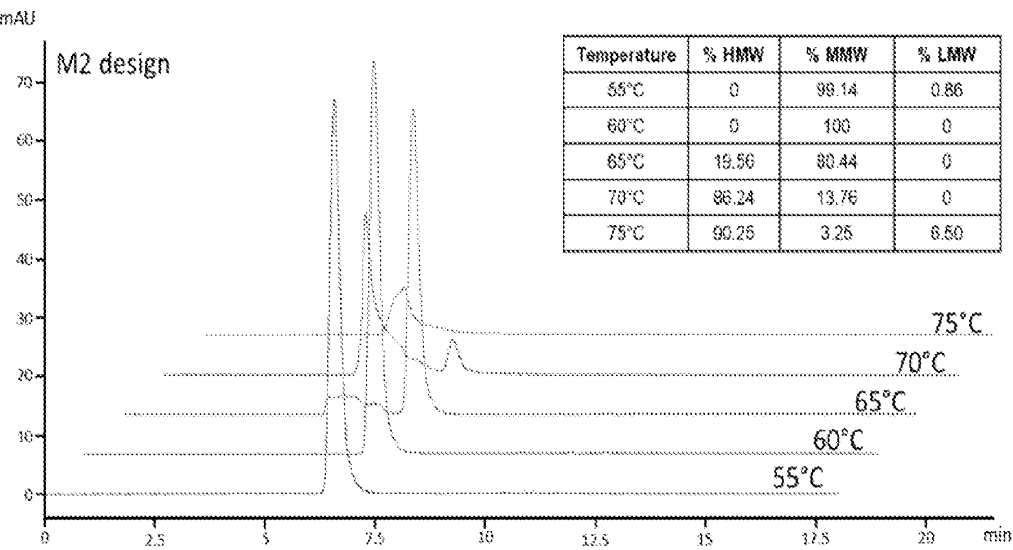


FIG. 5B

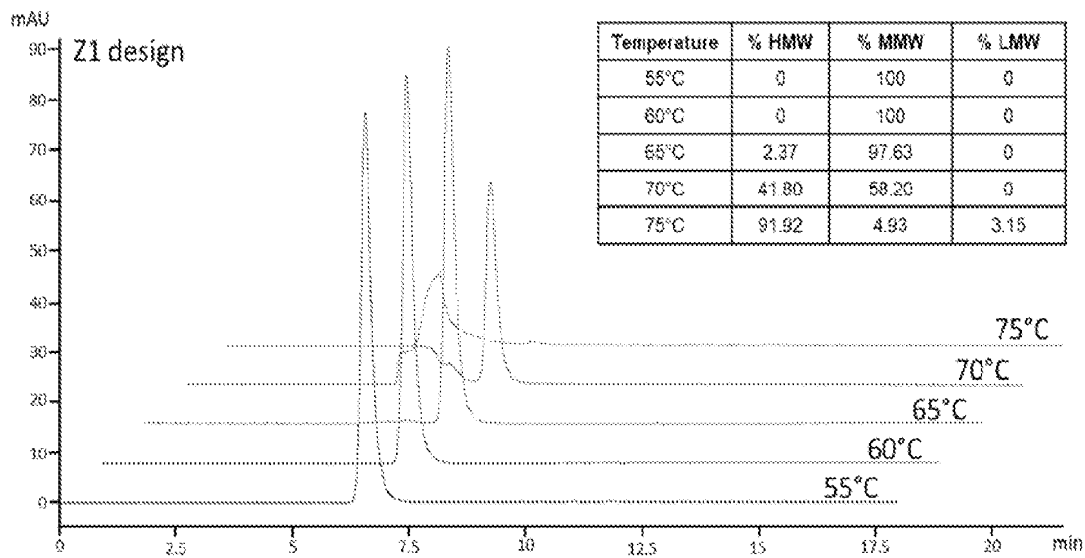


FIG. 5C

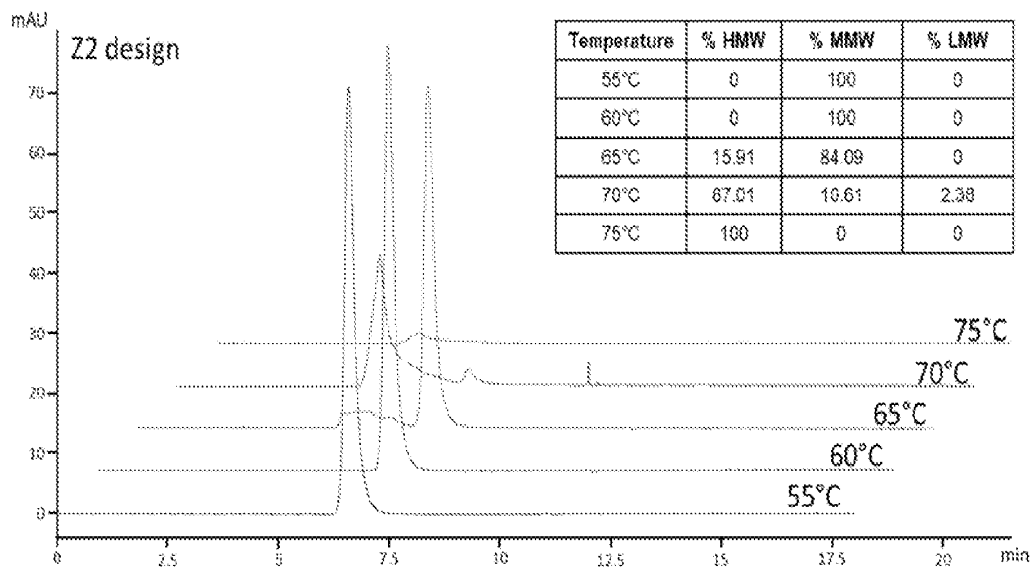


FIG. 5D

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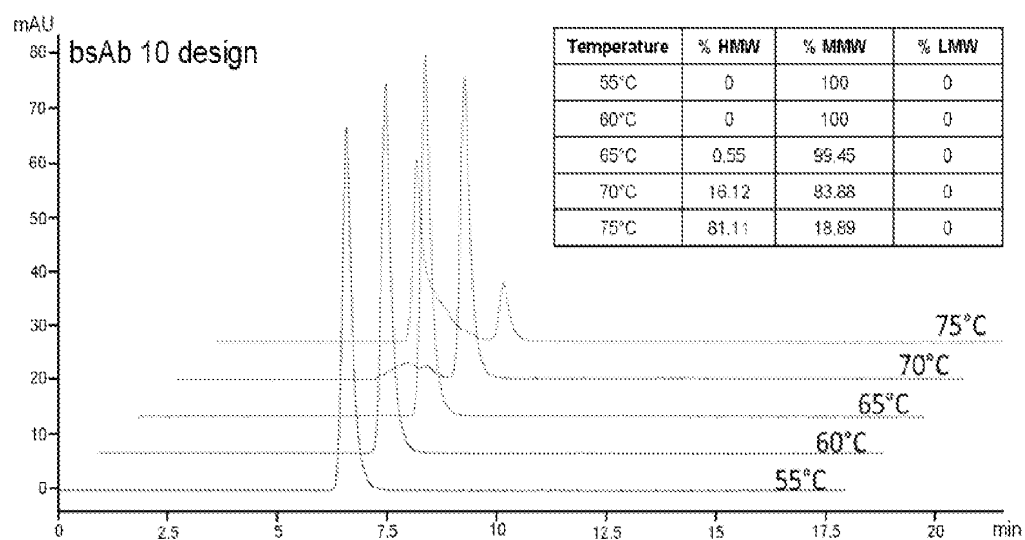


FIG. 5E

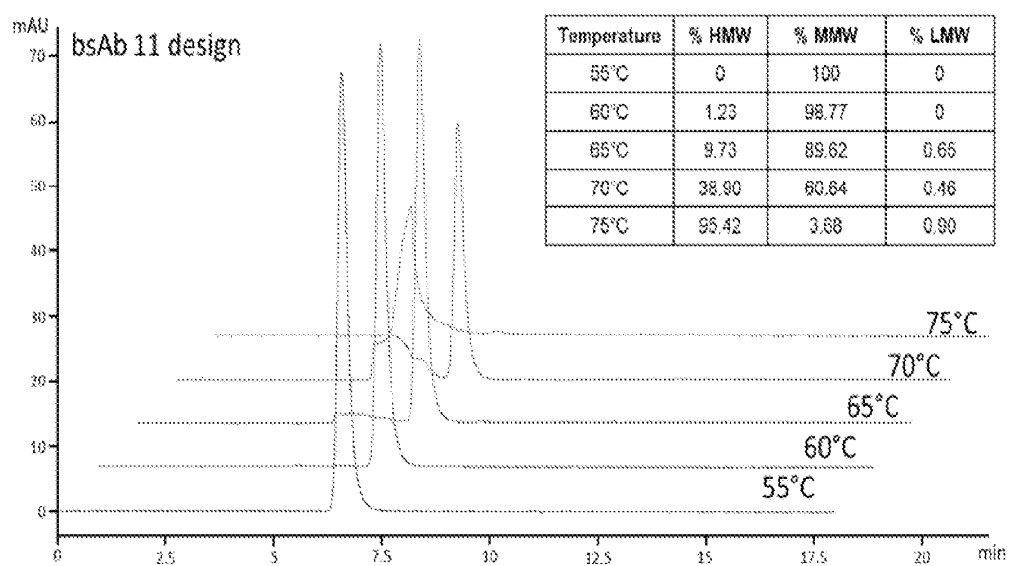


FIG. 5F

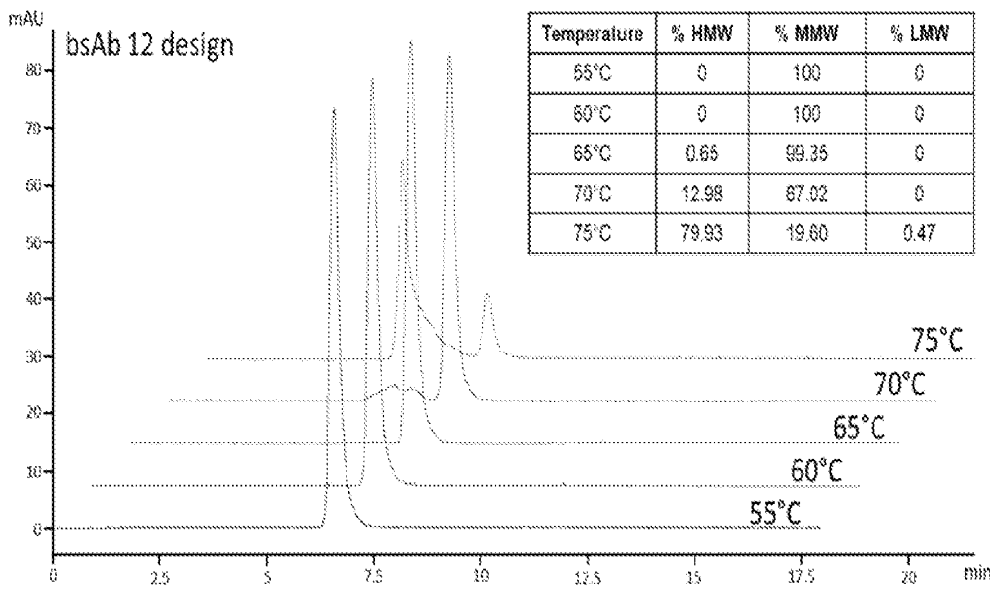


FIG. 5G

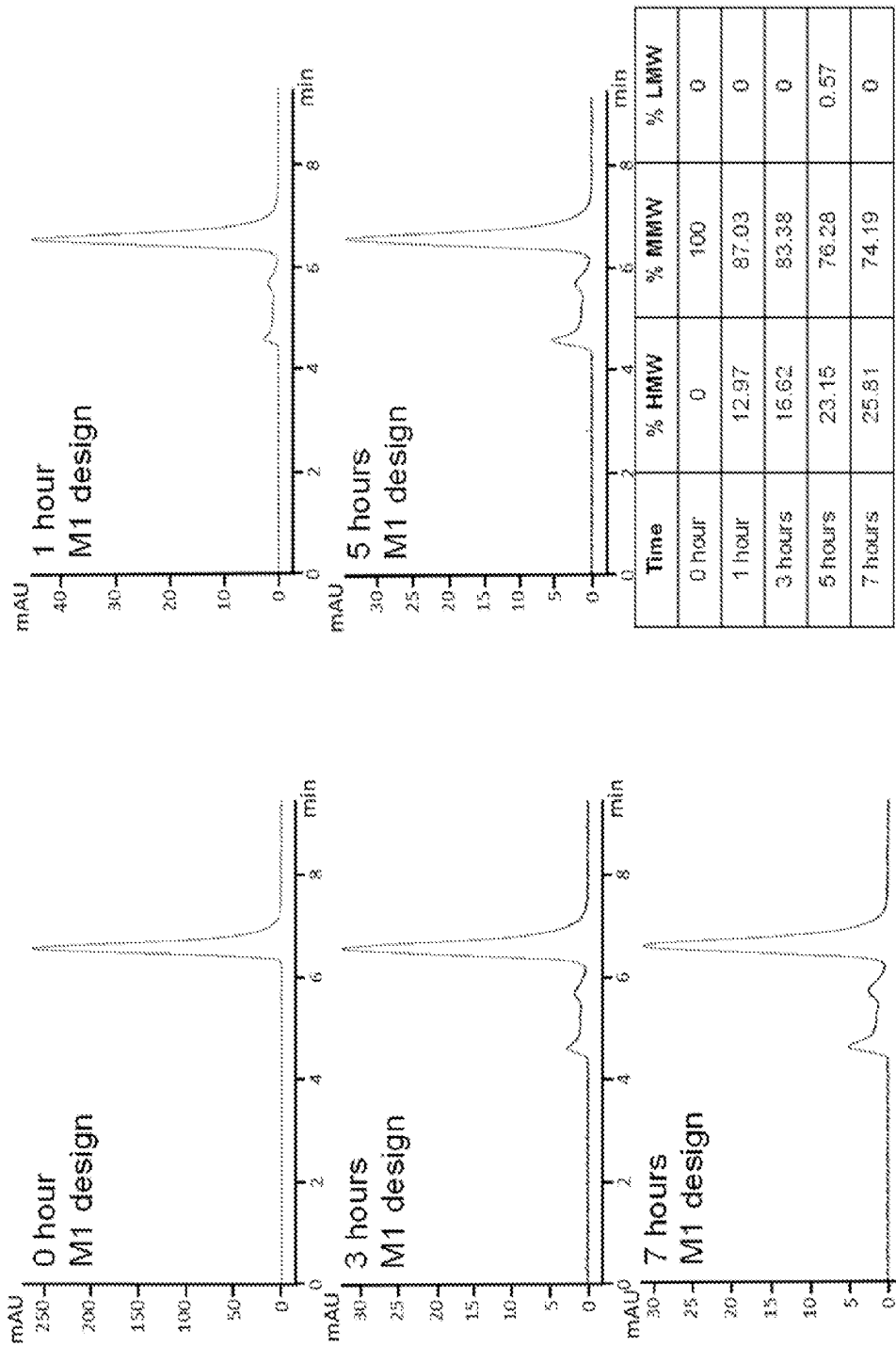


FIG. 6A

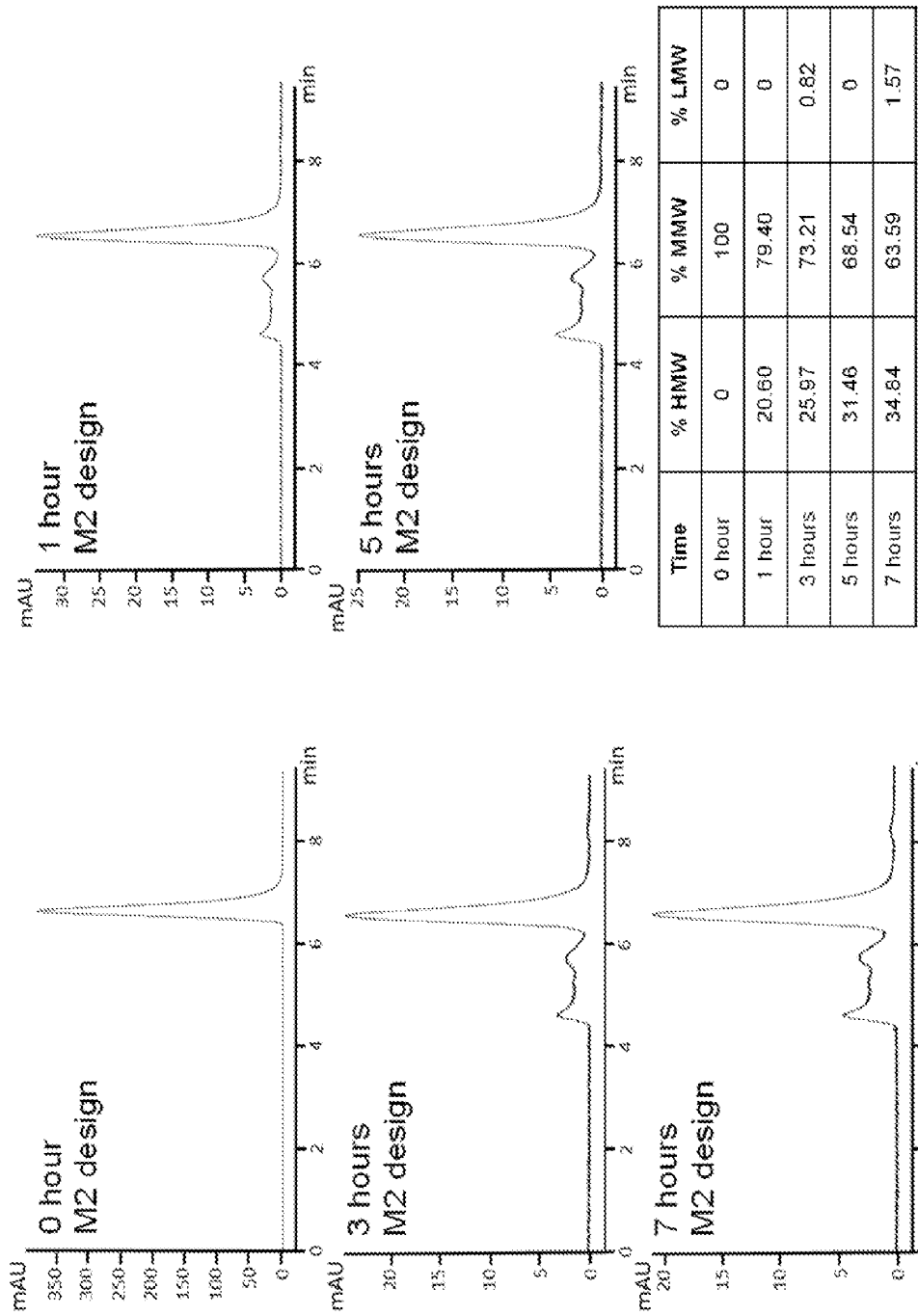


FIG. 6B

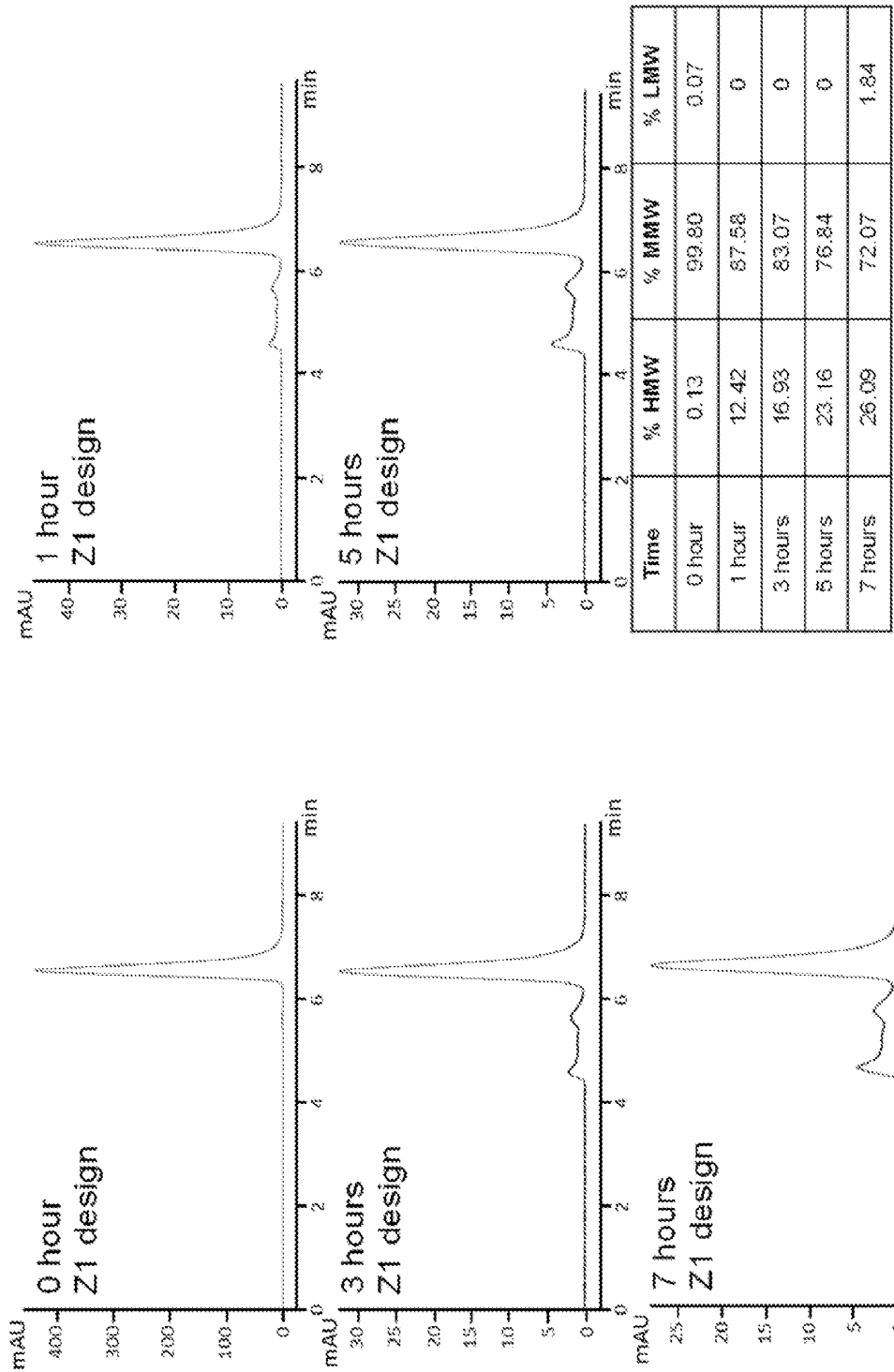


FIG. 6C

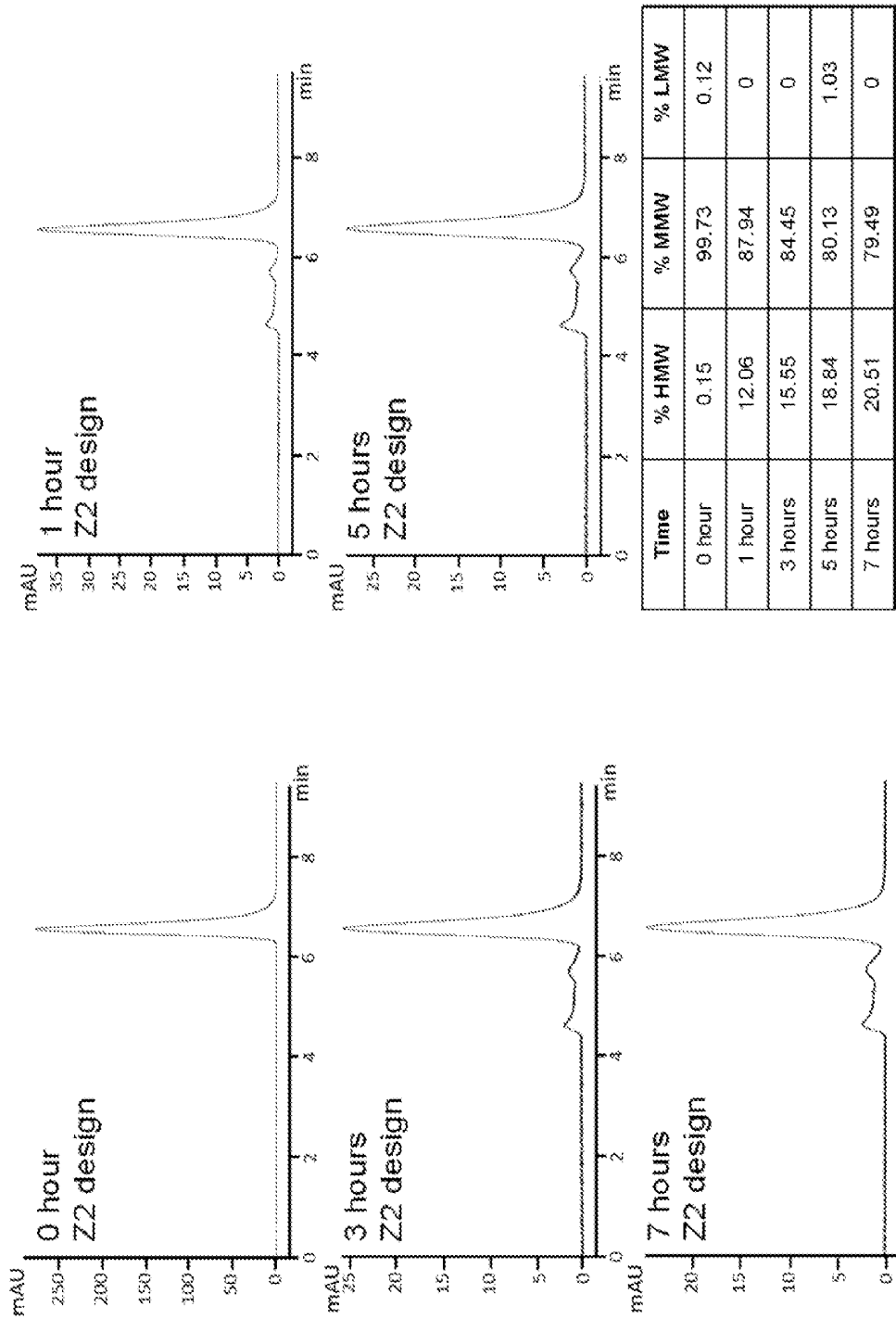


FIG. 6D

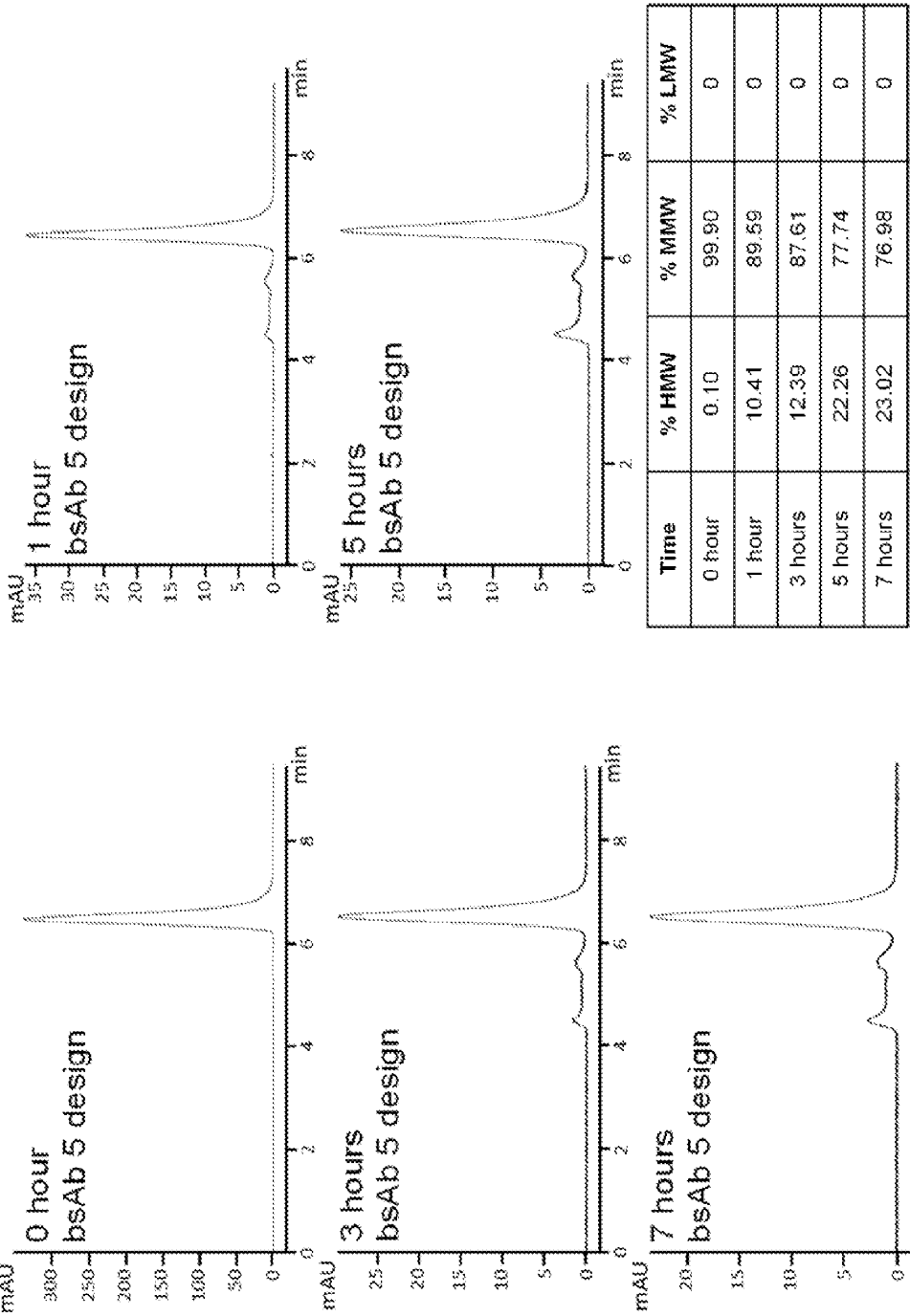
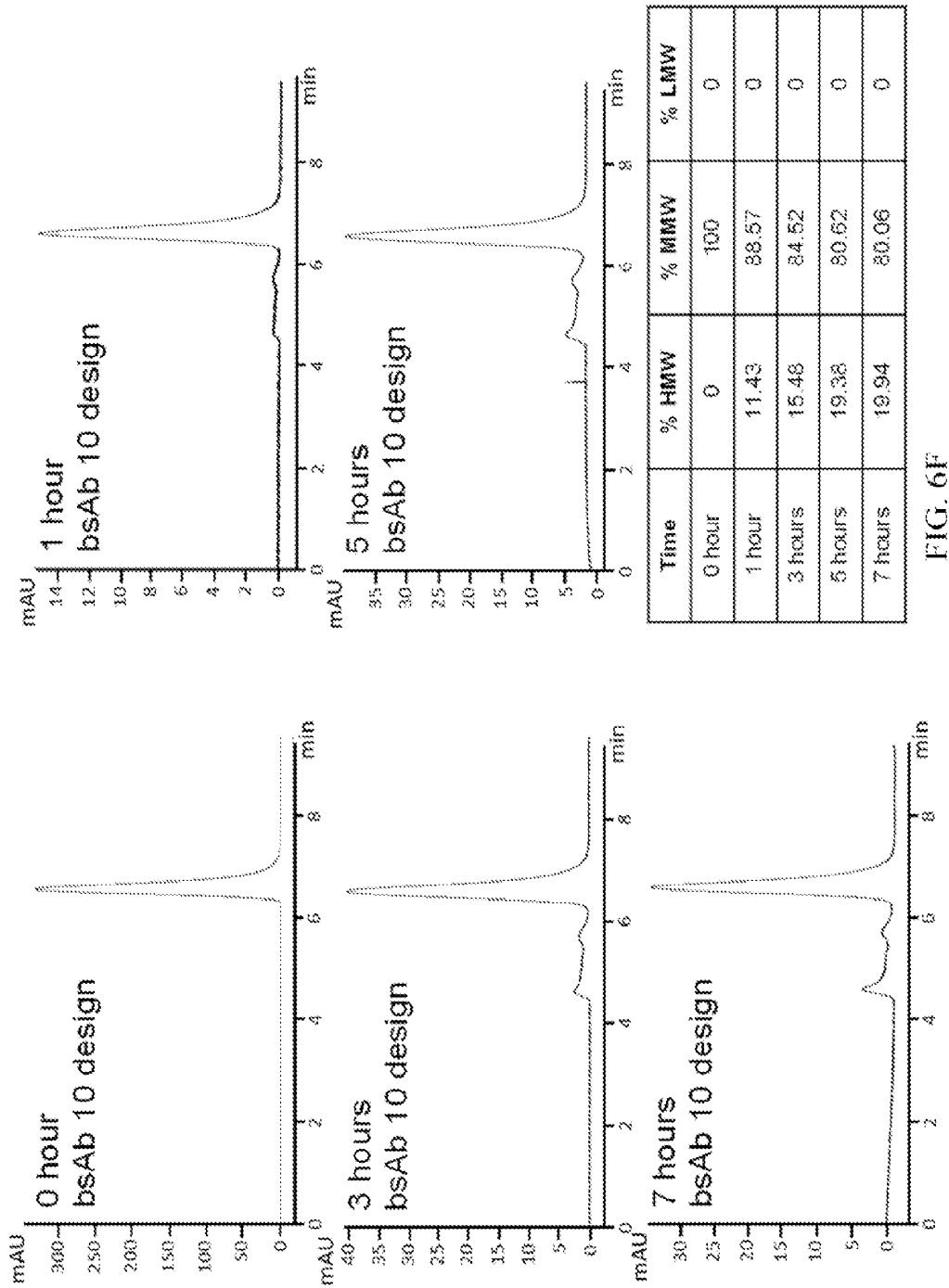


FIG. 6E



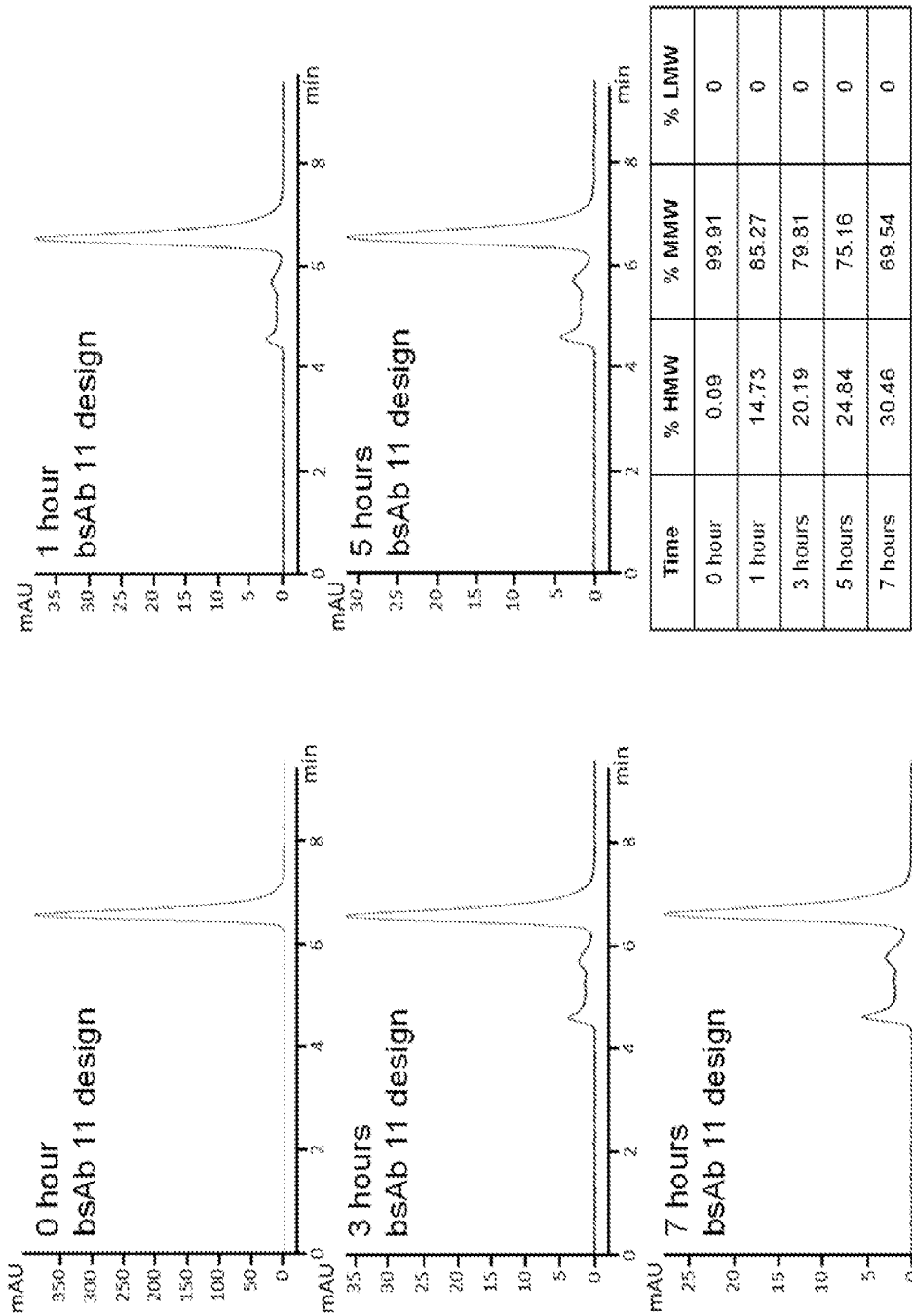


FIG. 6G

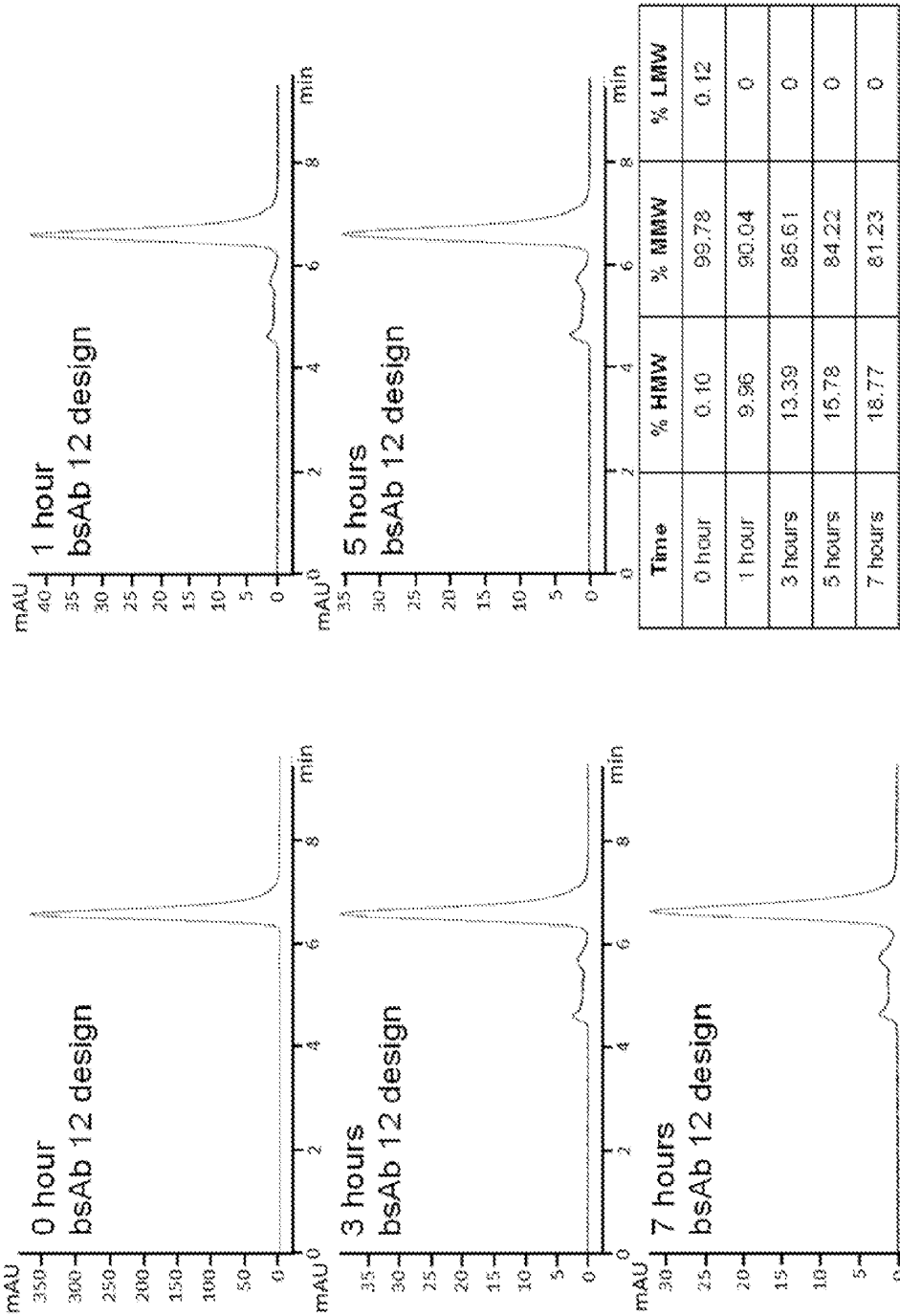


FIG. 6H

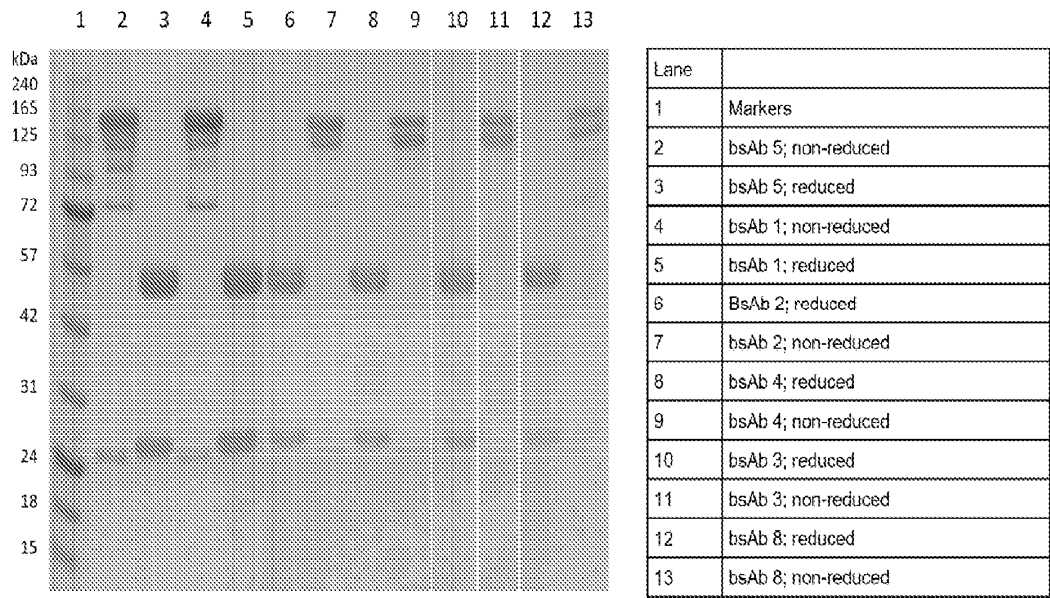


FIG. 7A

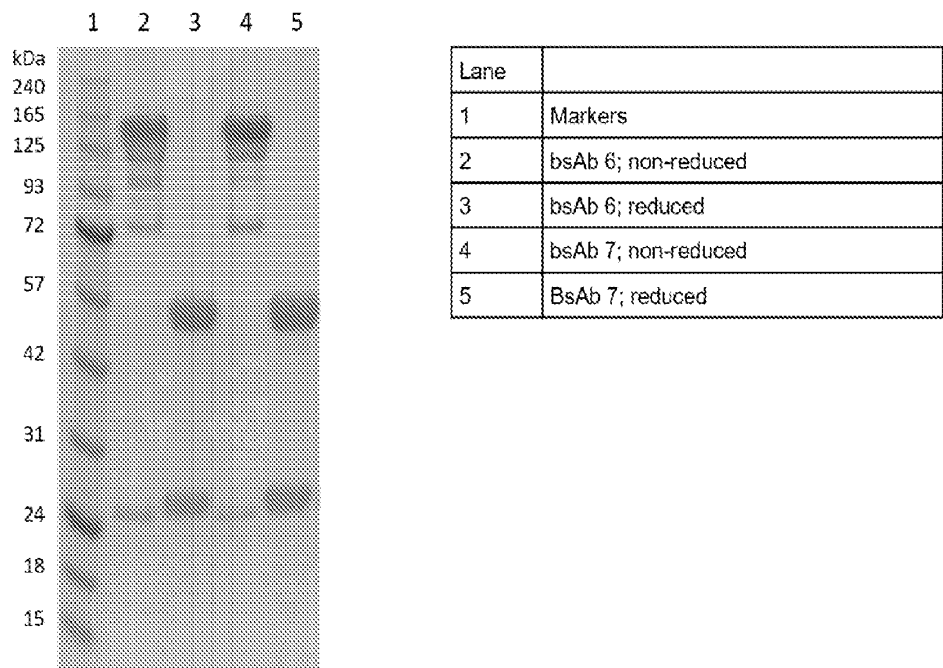


FIG. 7B

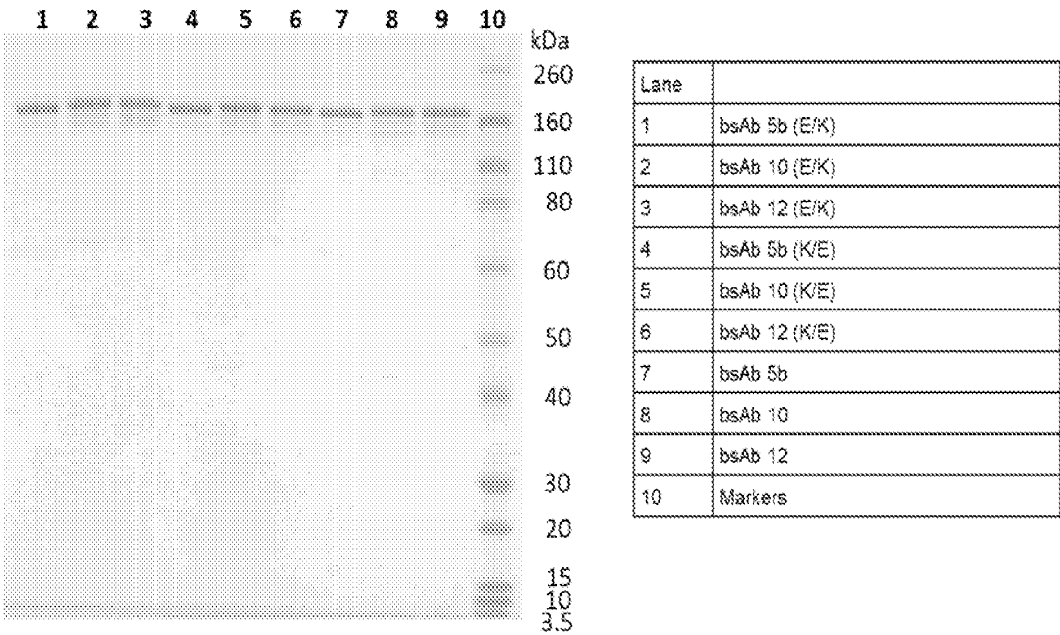


FIG. 7C

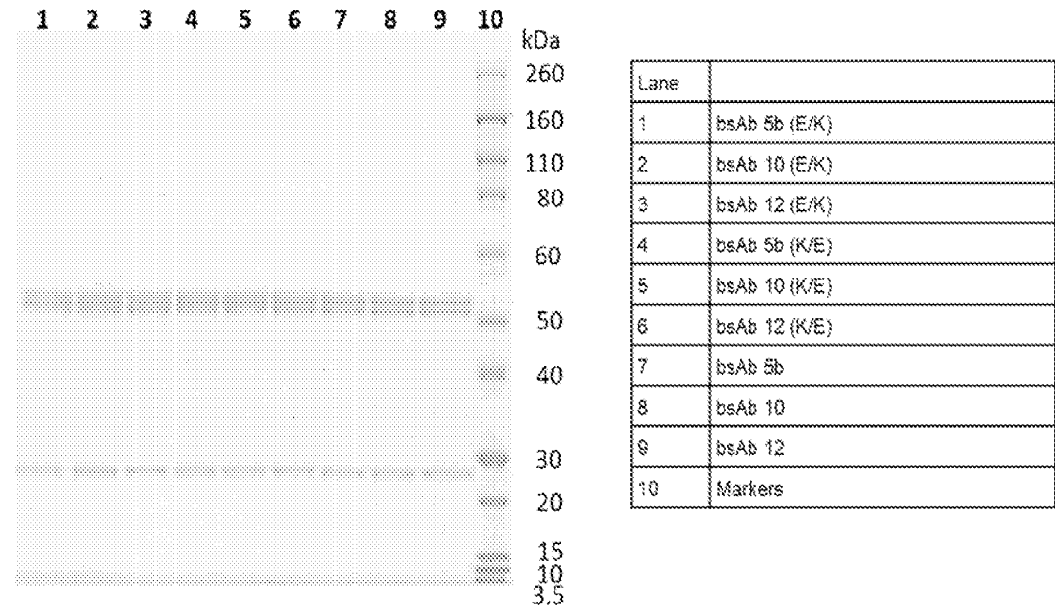


FIG. 7D

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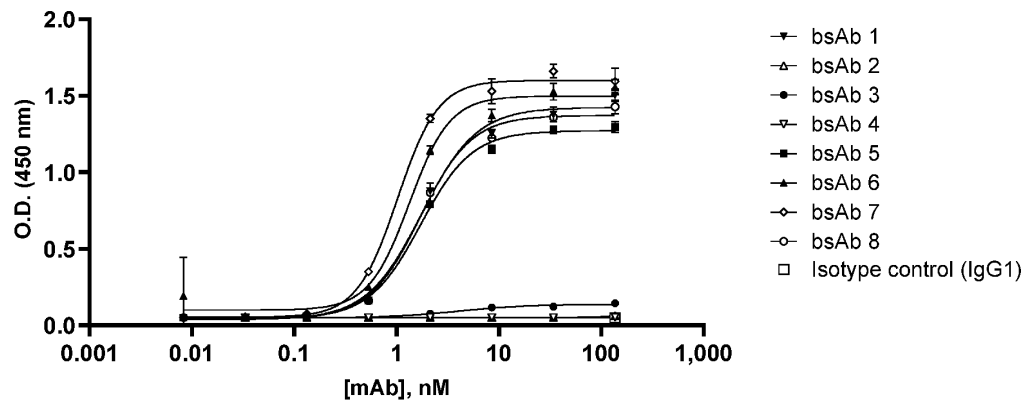


FIG. 8A

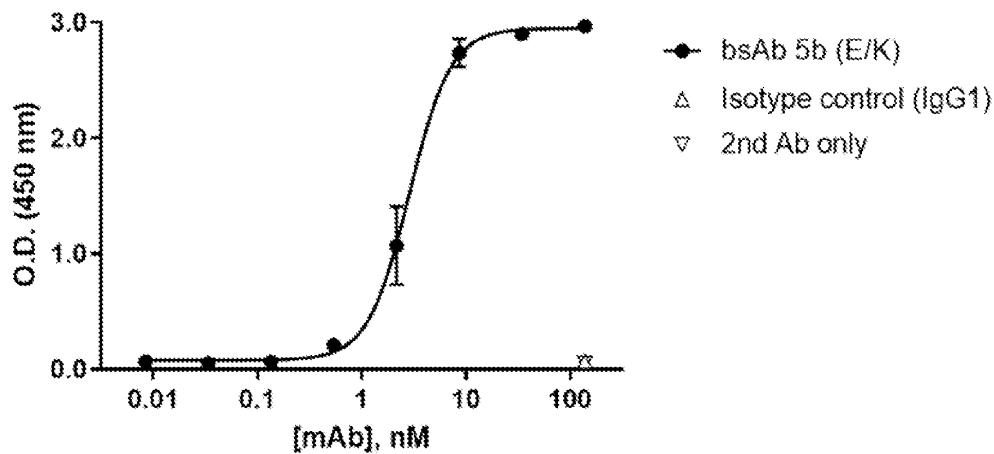


FIG. 8B

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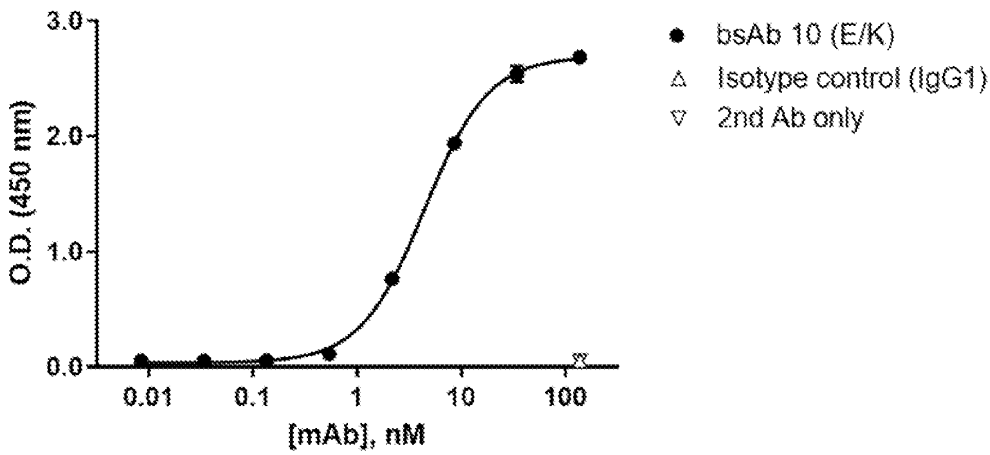


FIG. 8C

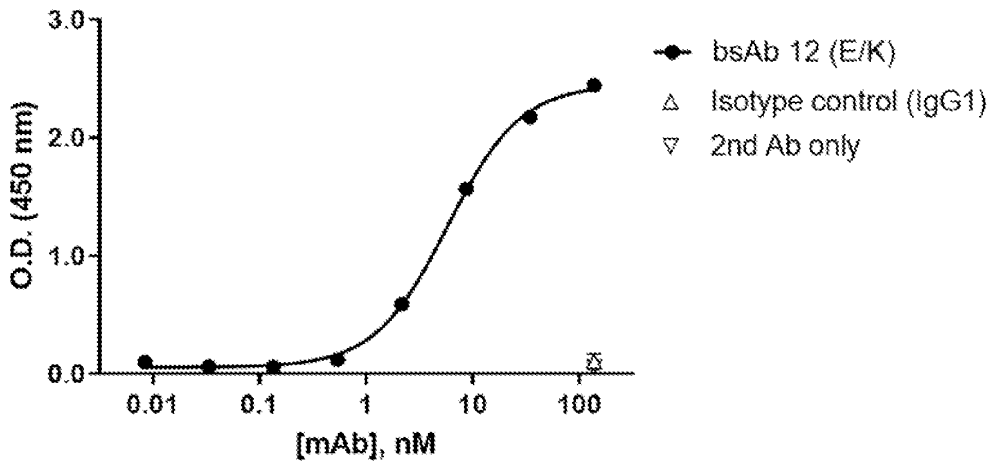


FIG. 8D

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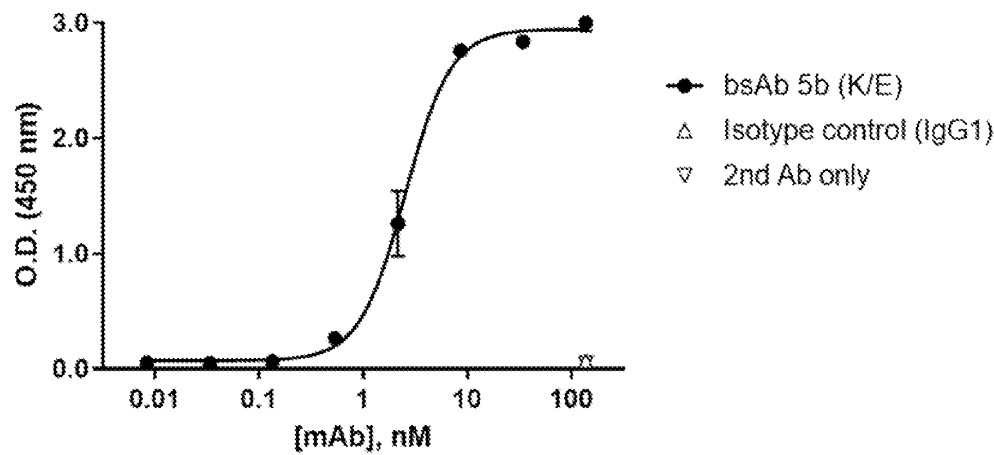


FIG. 8E

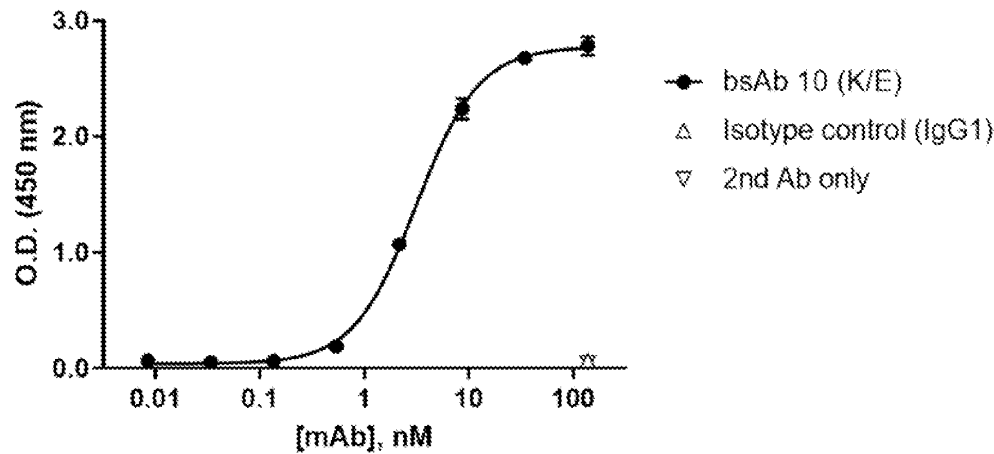


FIG. 8F

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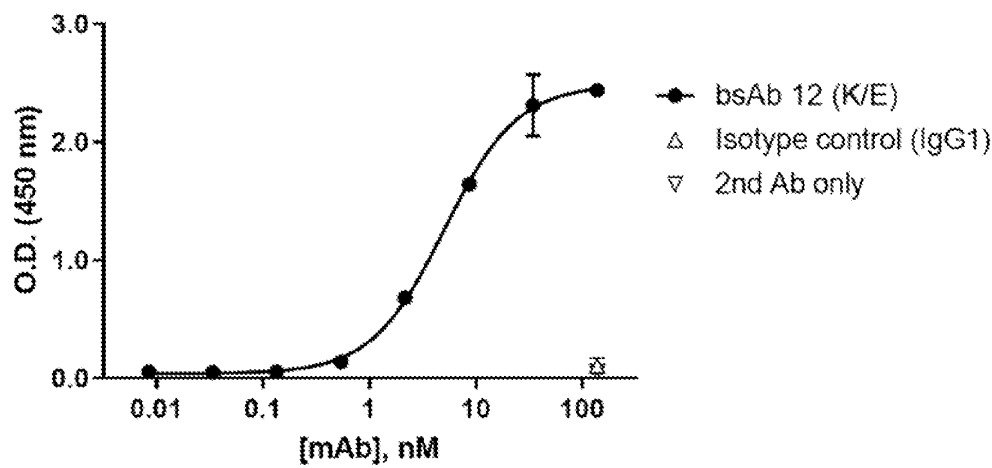


FIG. 8G

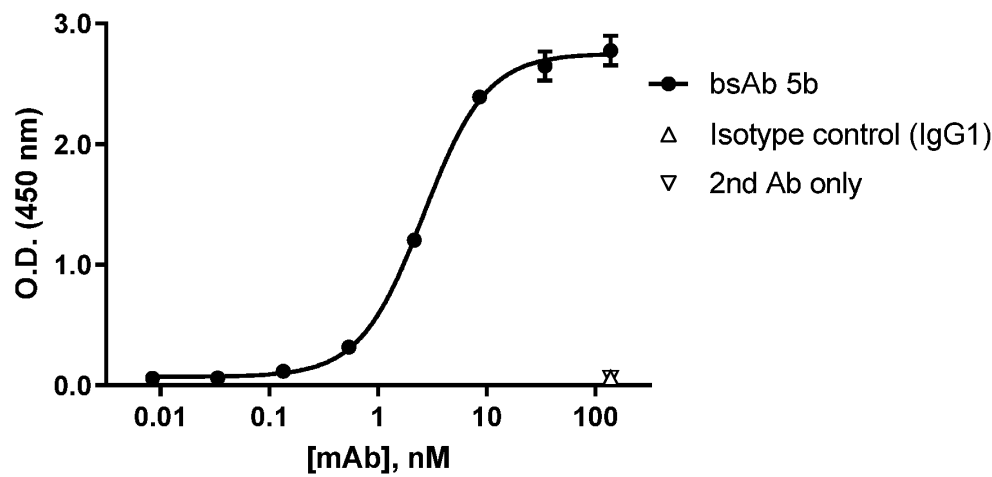


FIG. 8H

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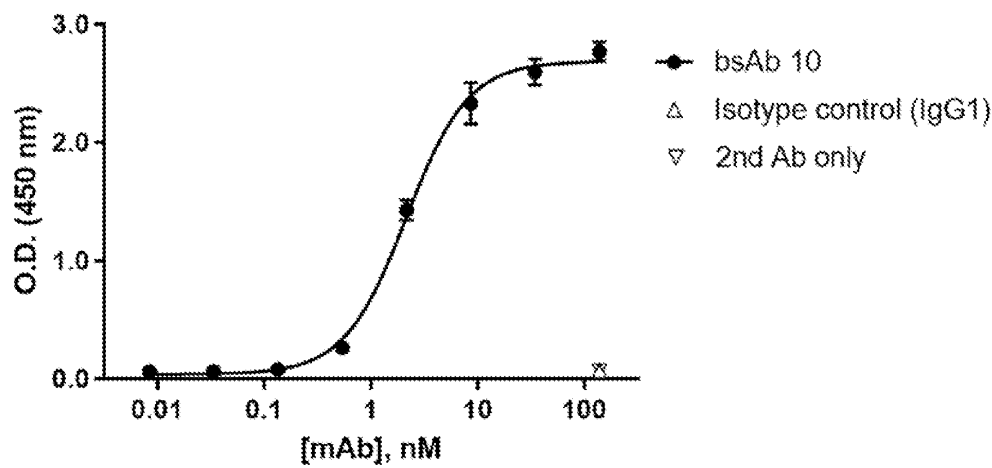


FIG. 8I

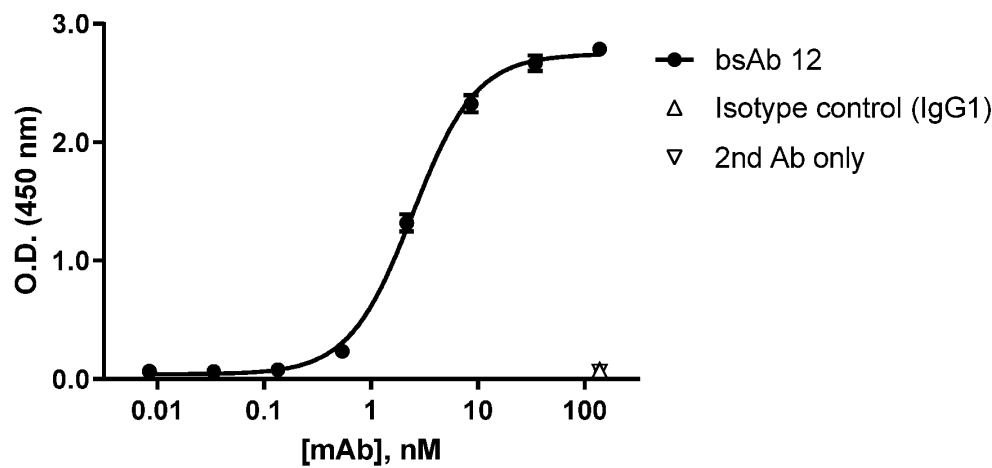


FIG. 8J

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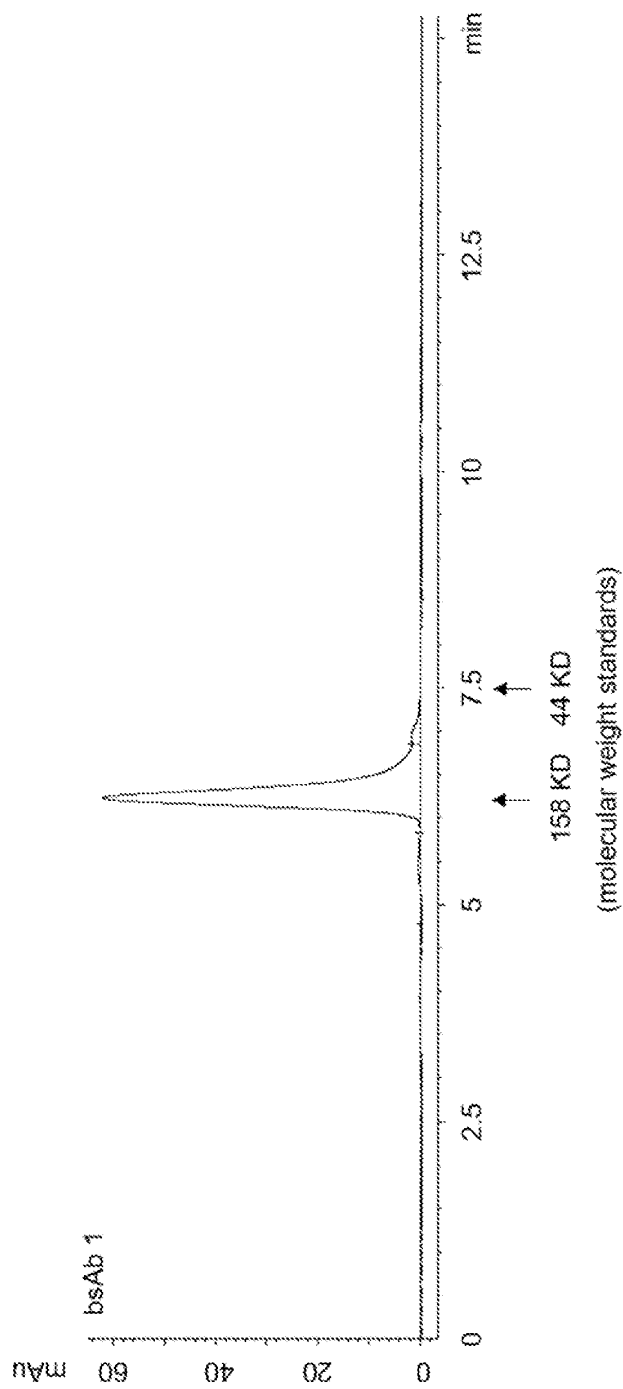


FIG. 9A

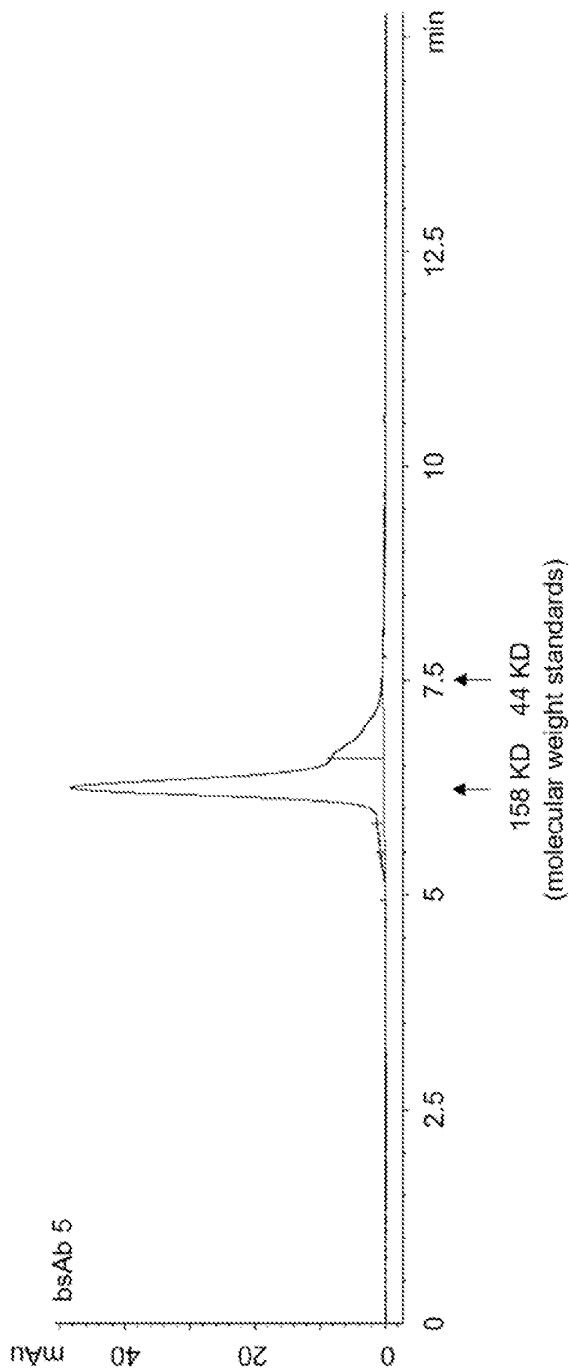


FIG. 9B

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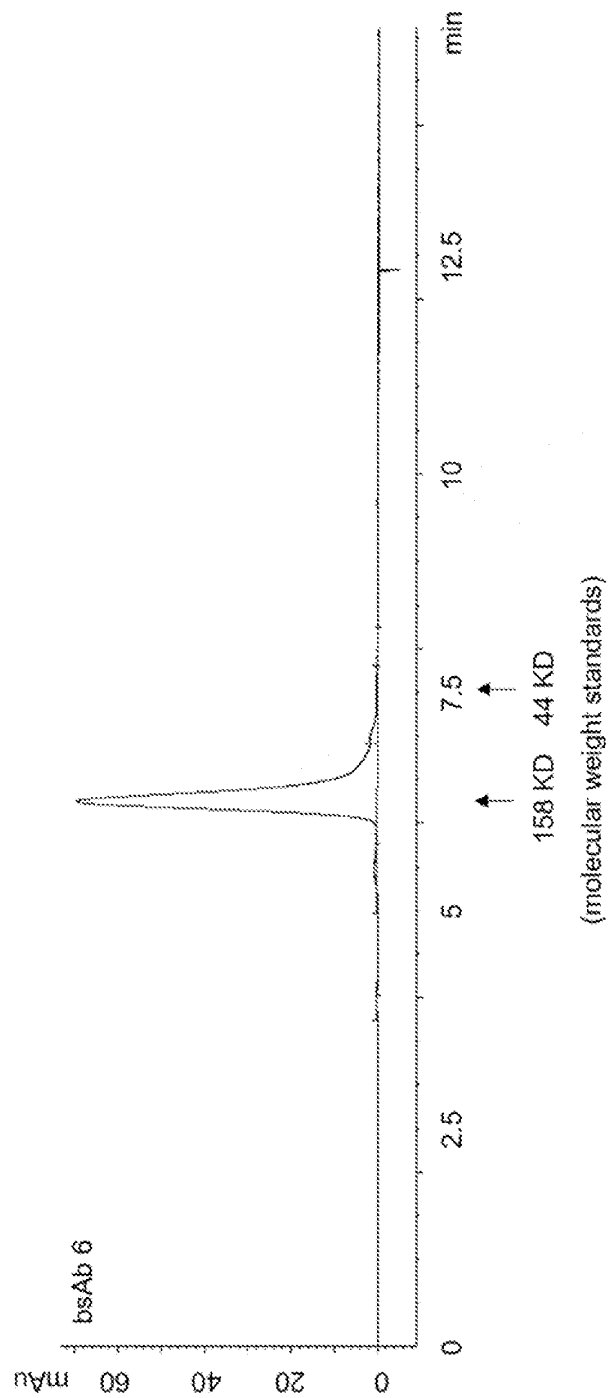


FIG. 9C

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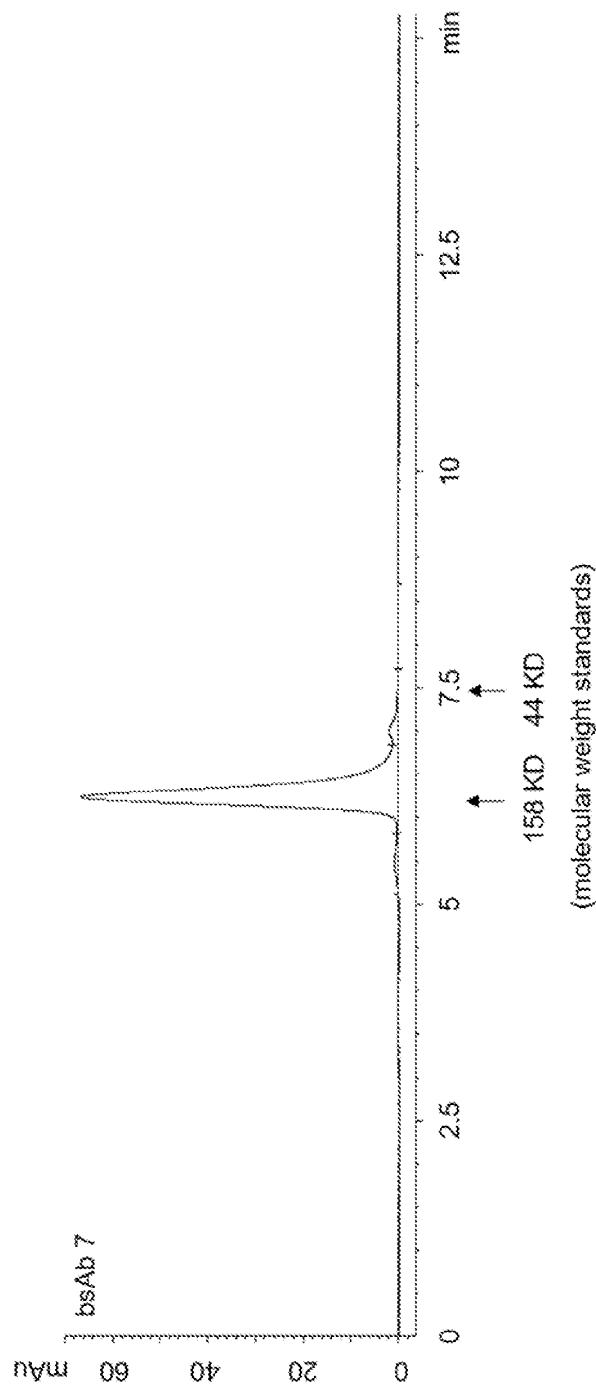


FIG. 9D

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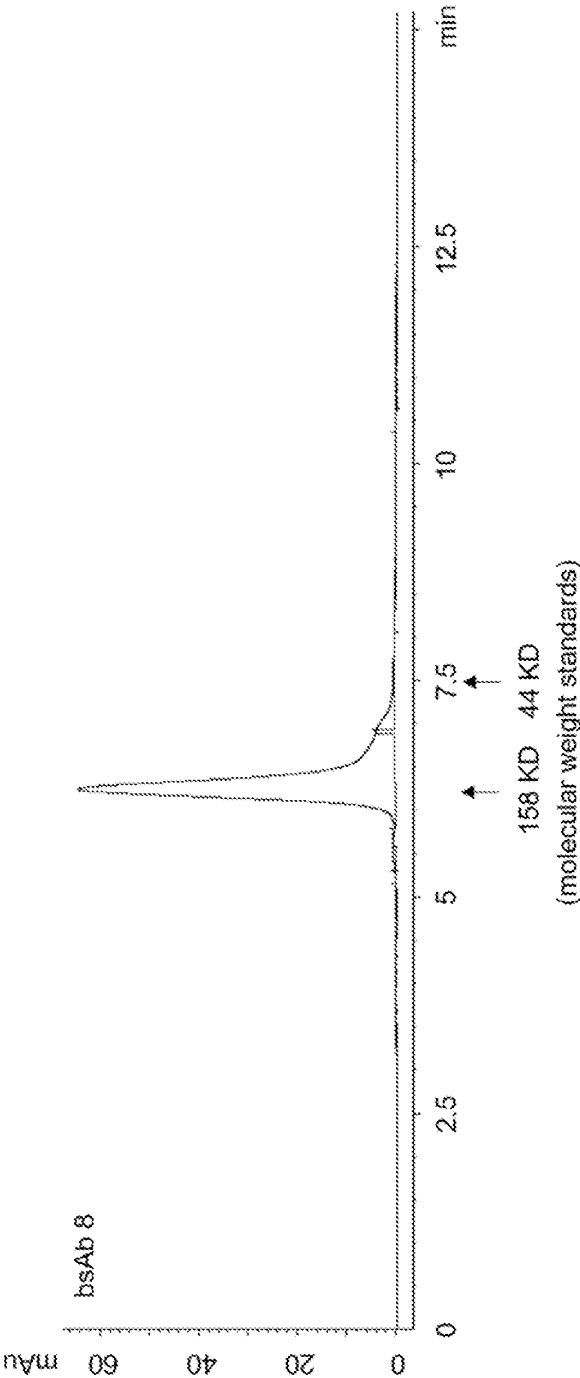


FIG. 9E

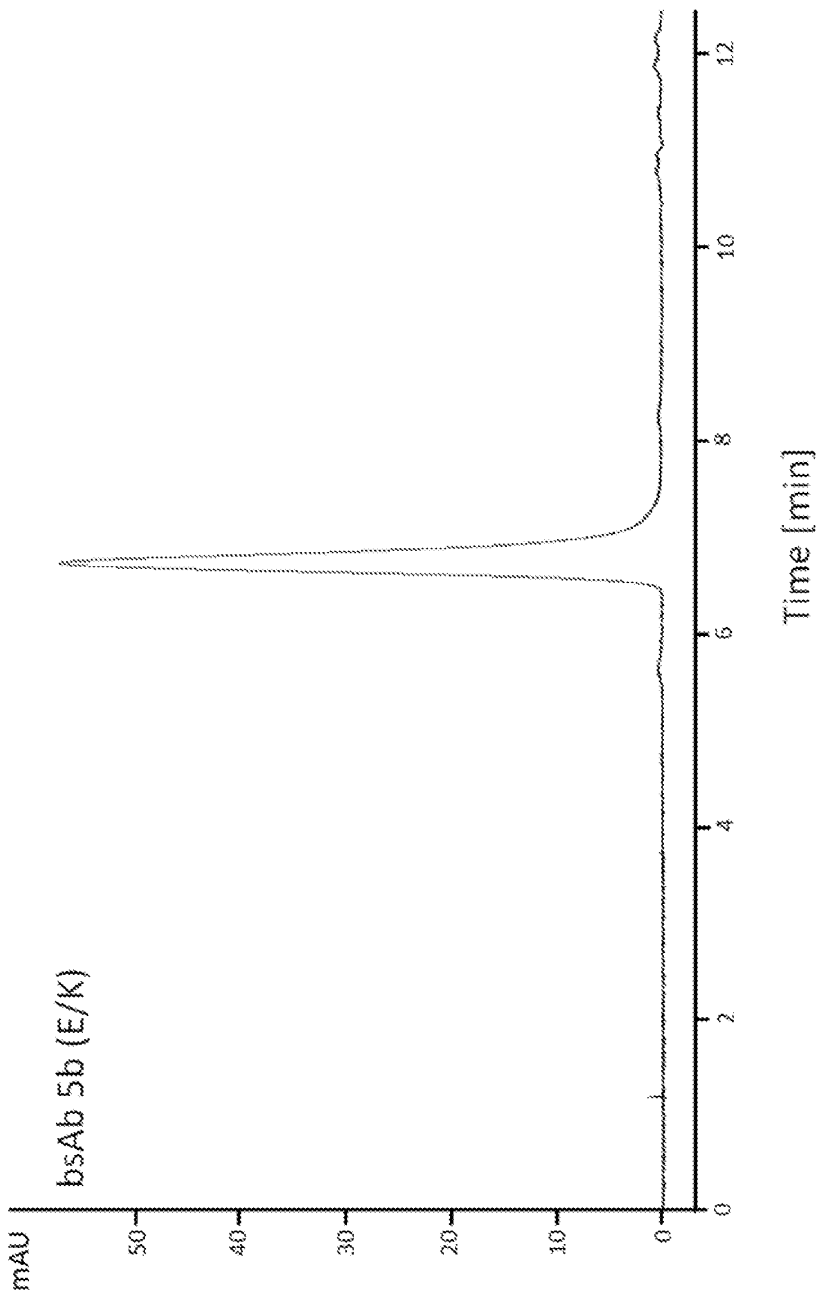


FIG. 9F

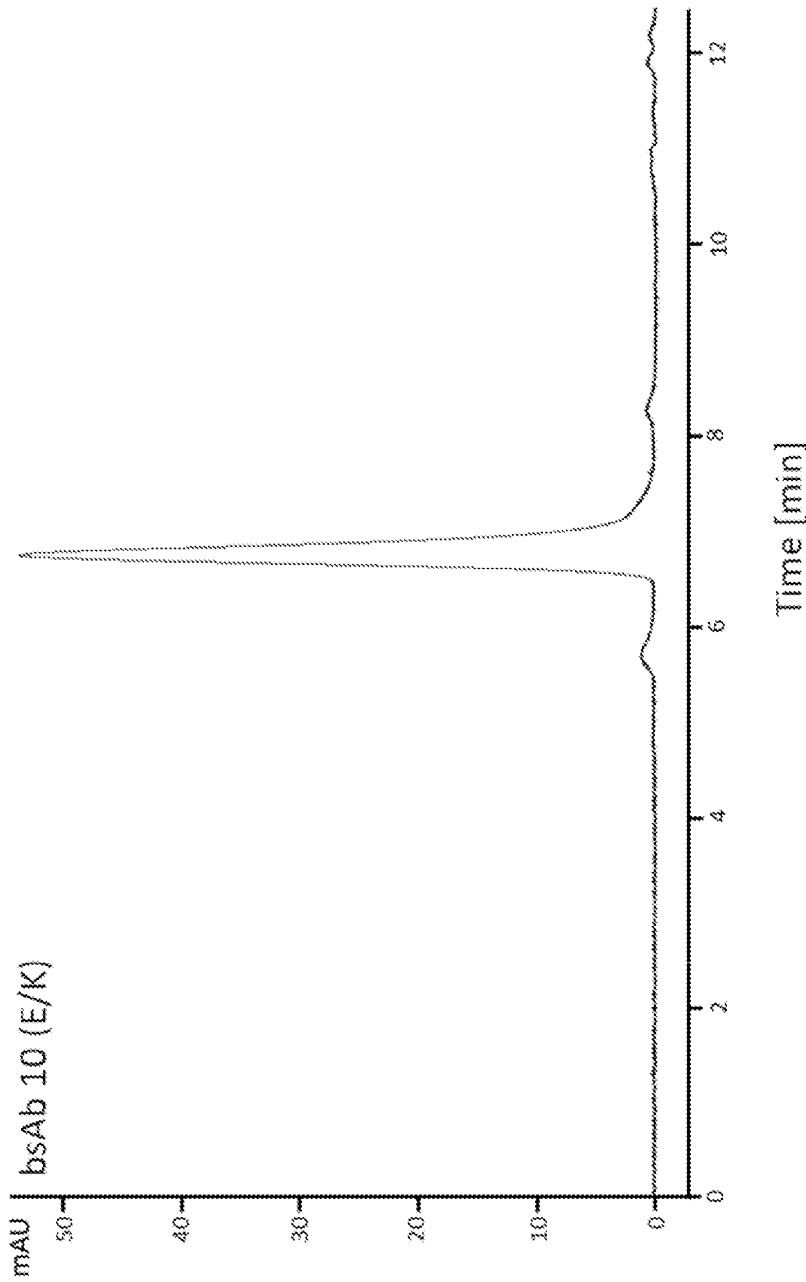


FIG. 9G

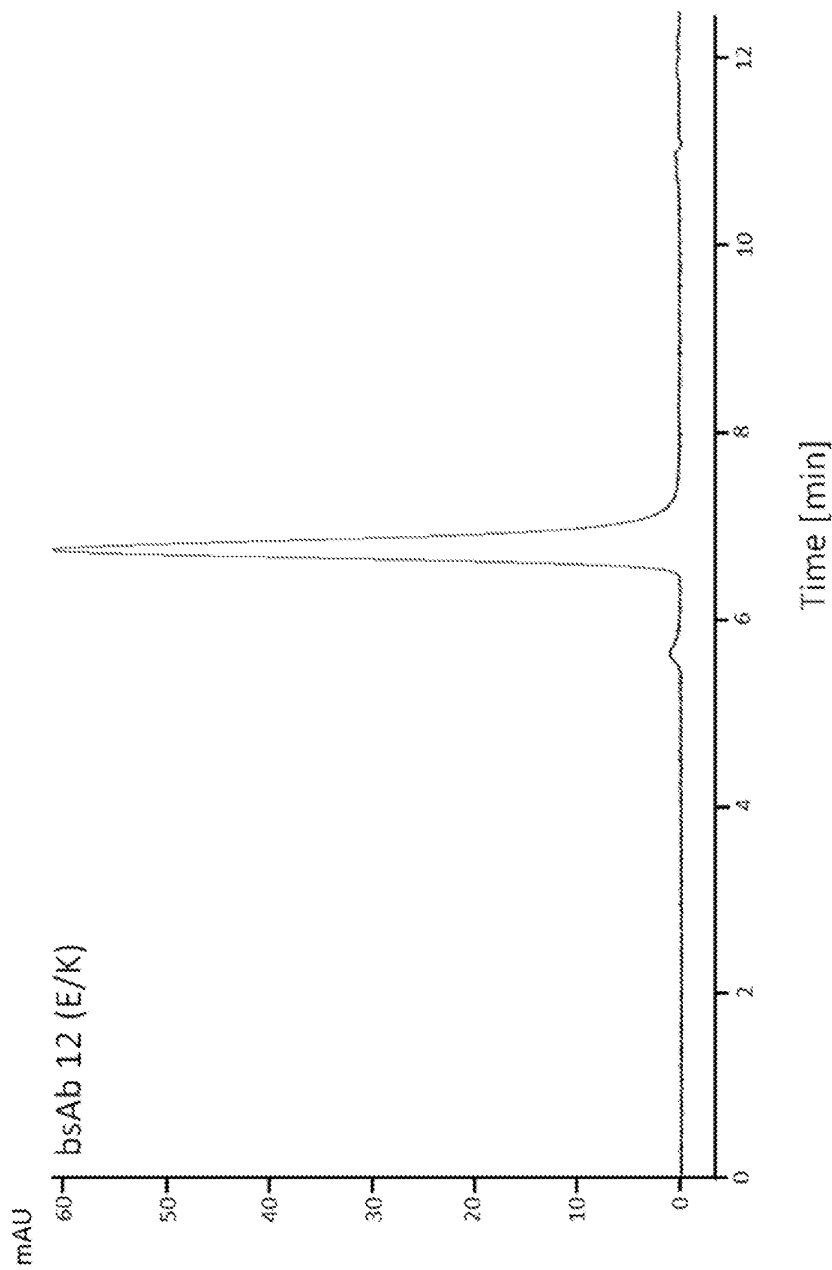


FIG. 9H

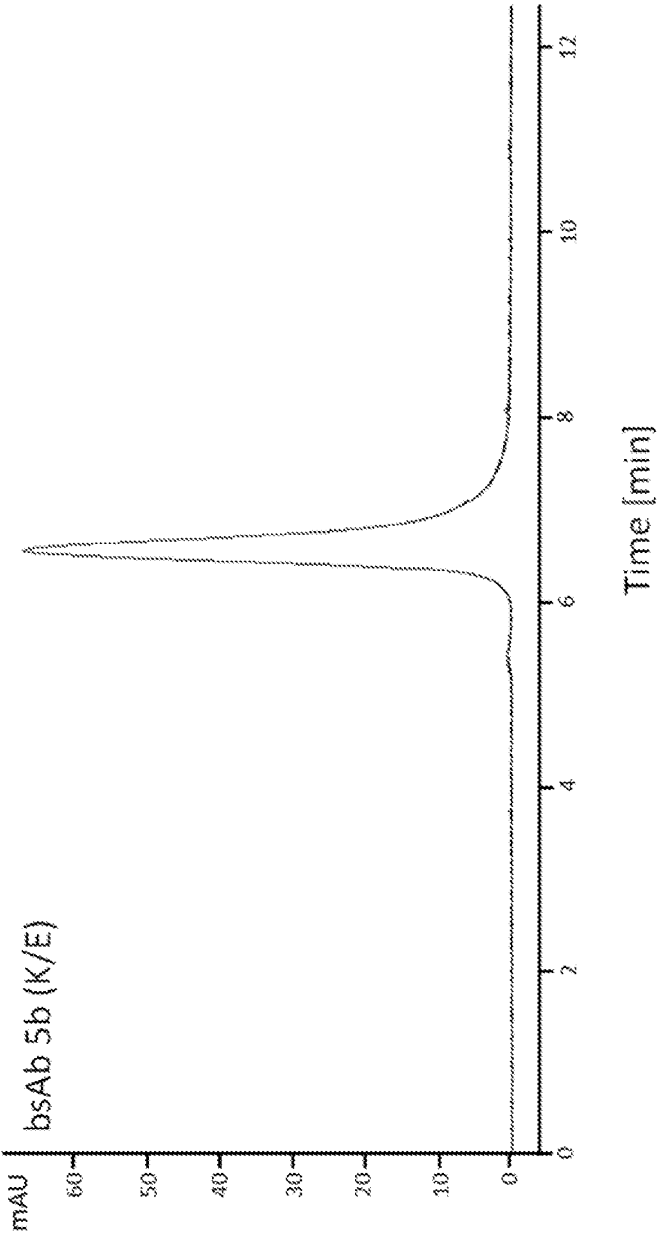


FIG. 9I

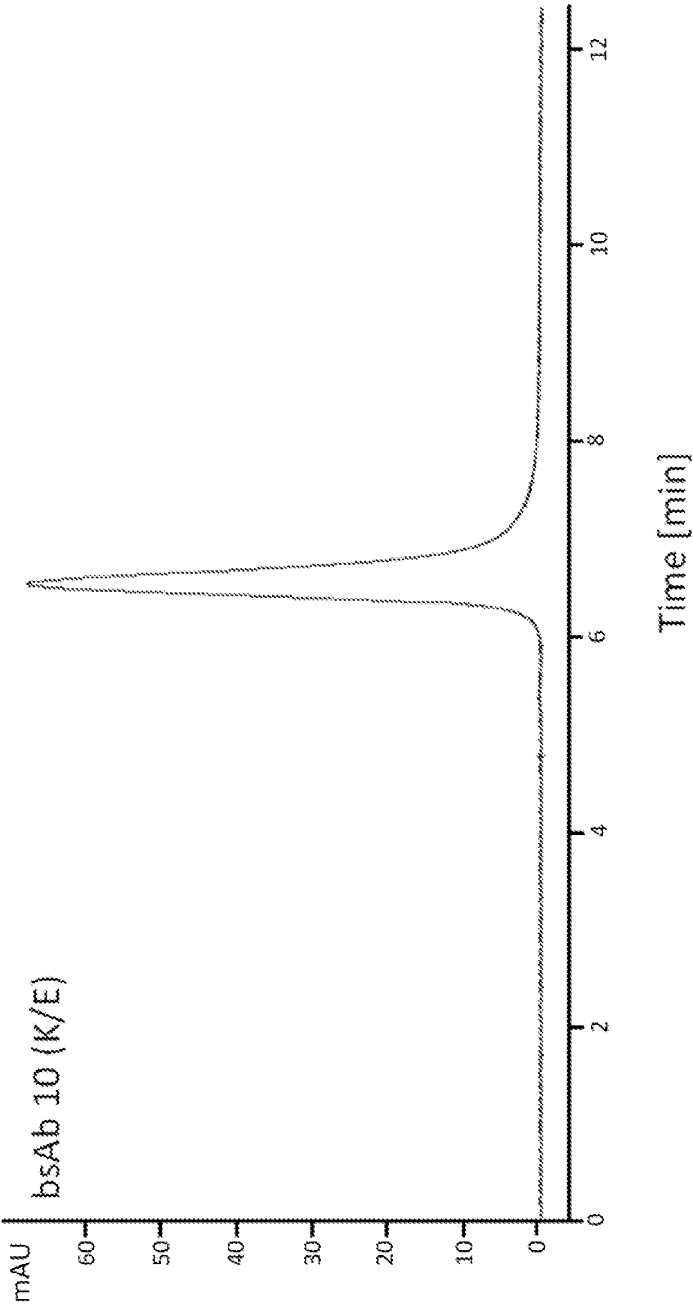


FIG. 9J

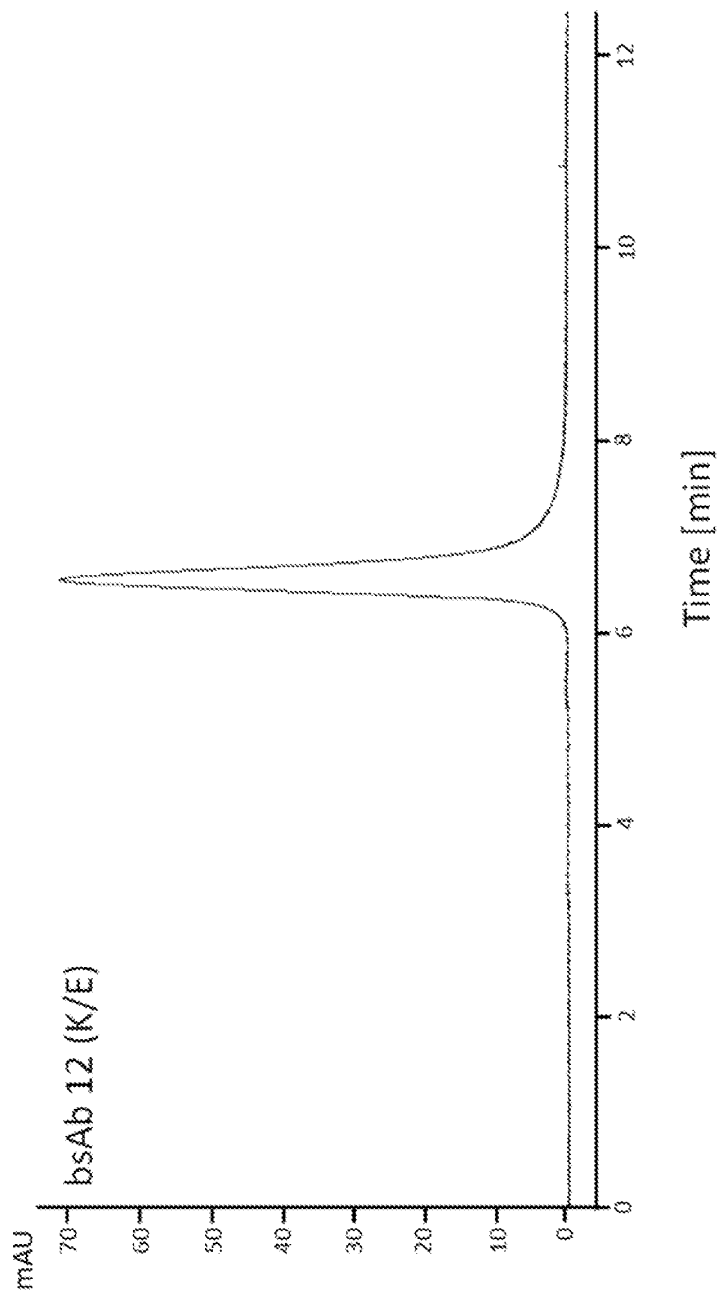


FIG. 9K

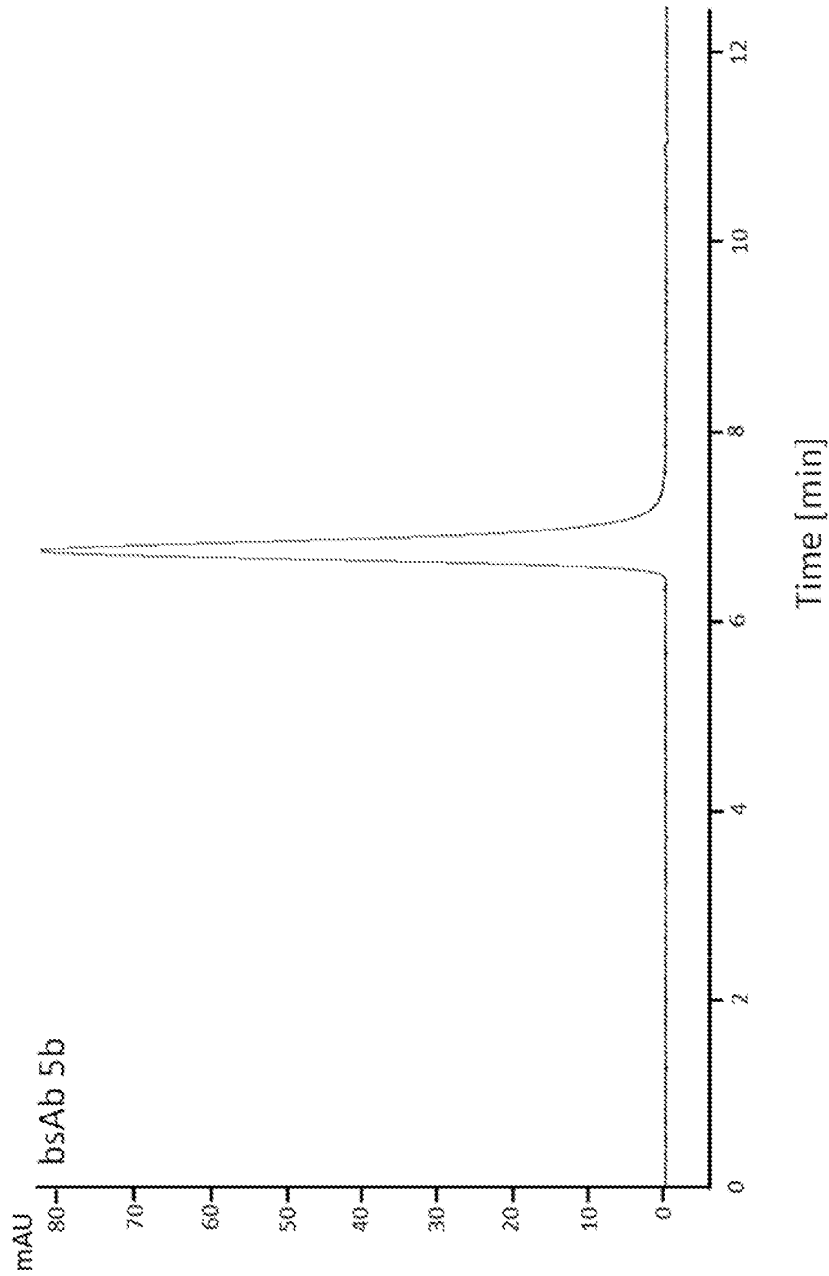


FIG. 9L

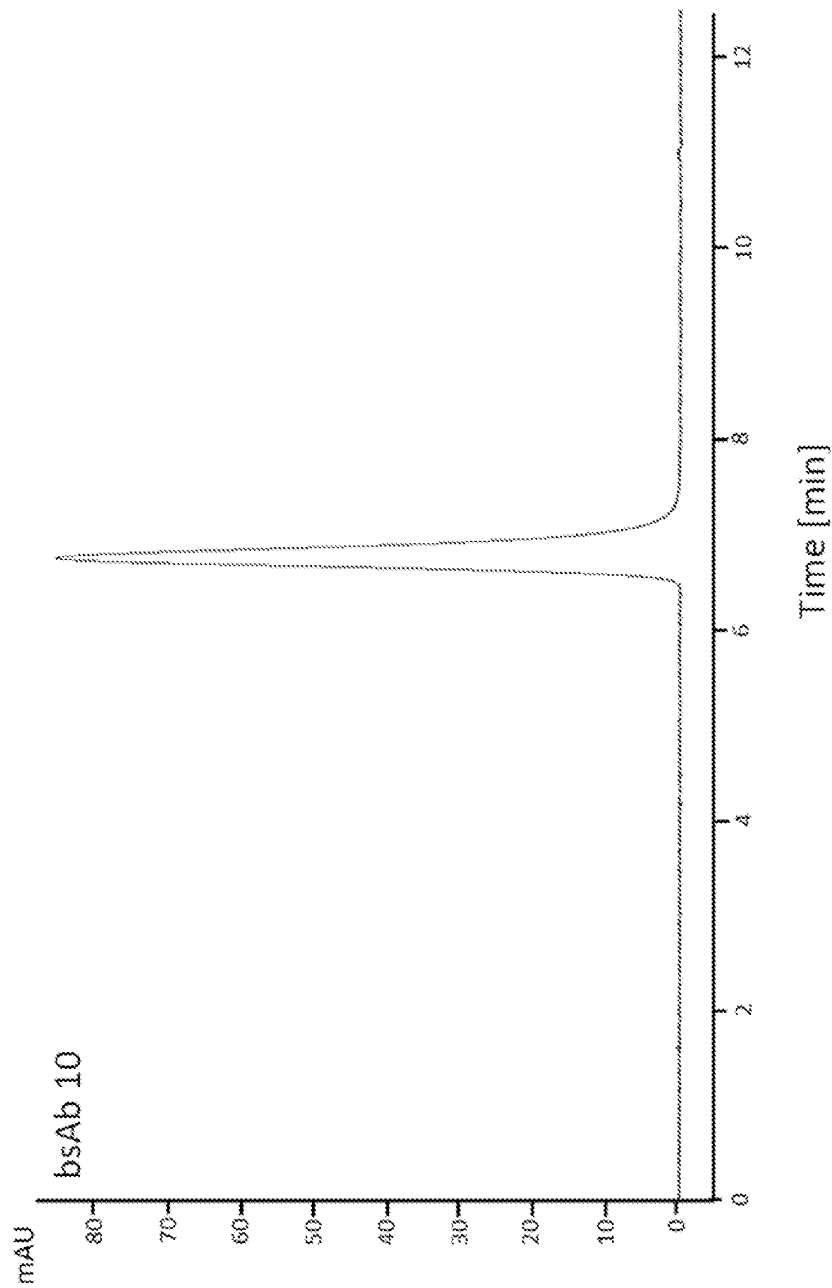


FIG. 9M

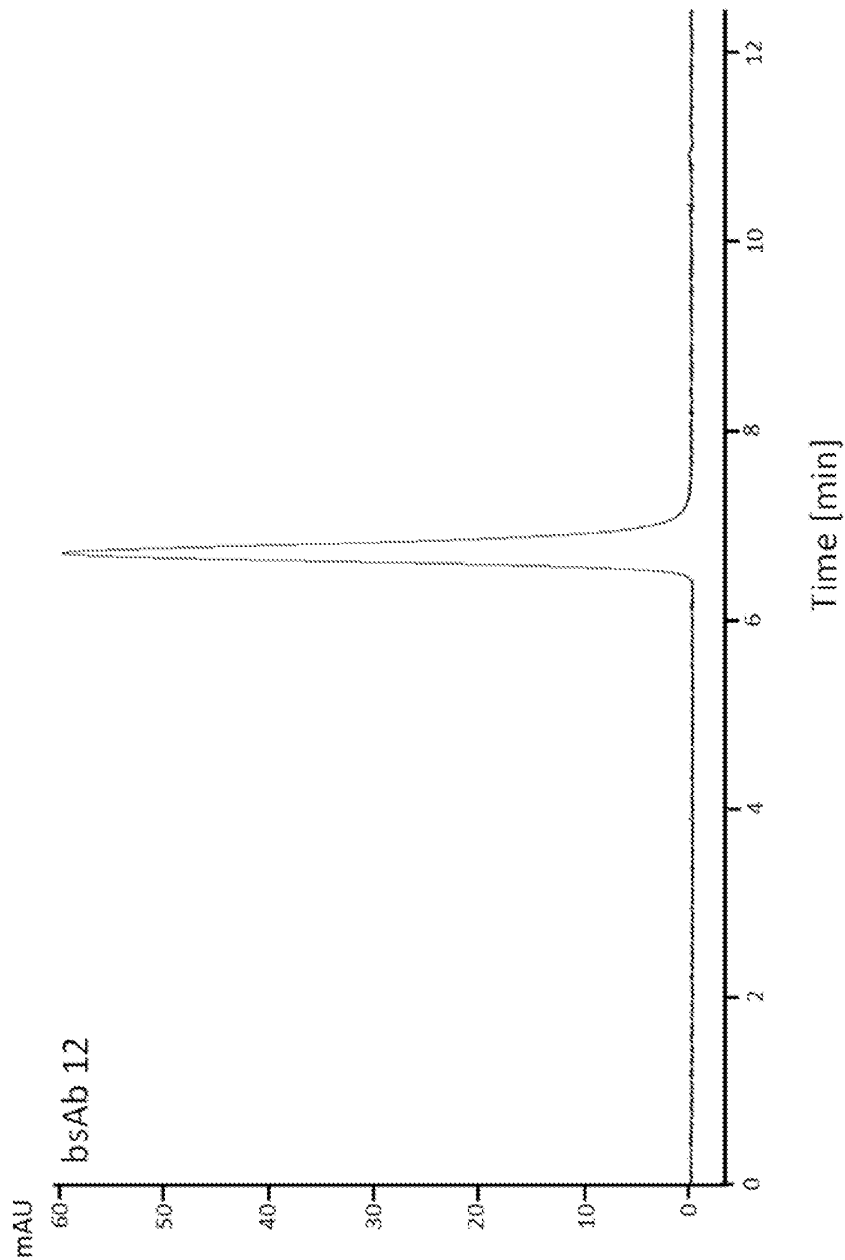


FIG. 9N

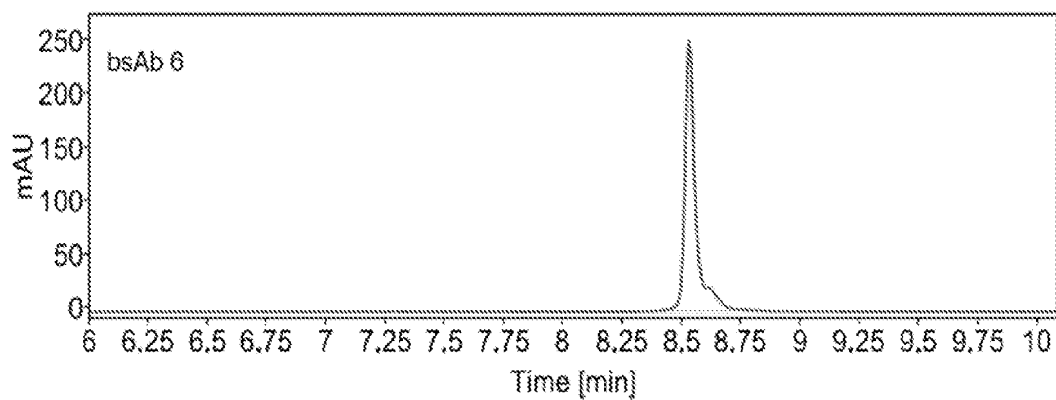


FIG. 10A

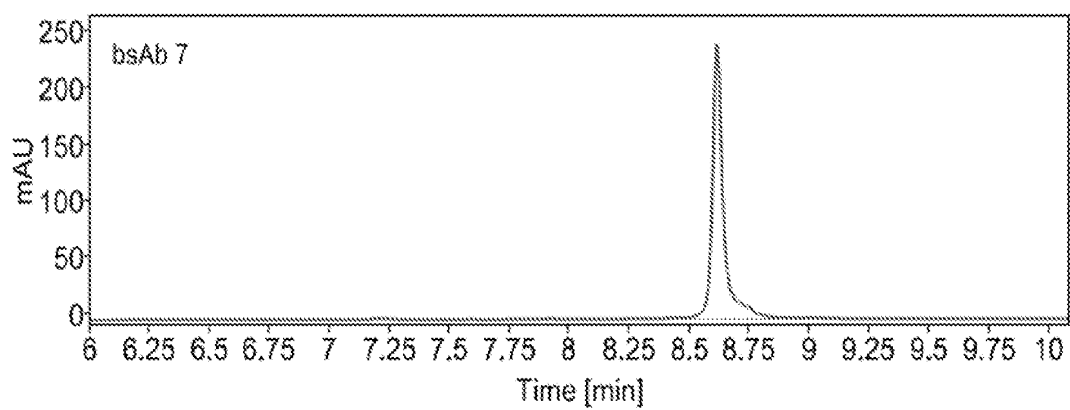


FIG. 10B

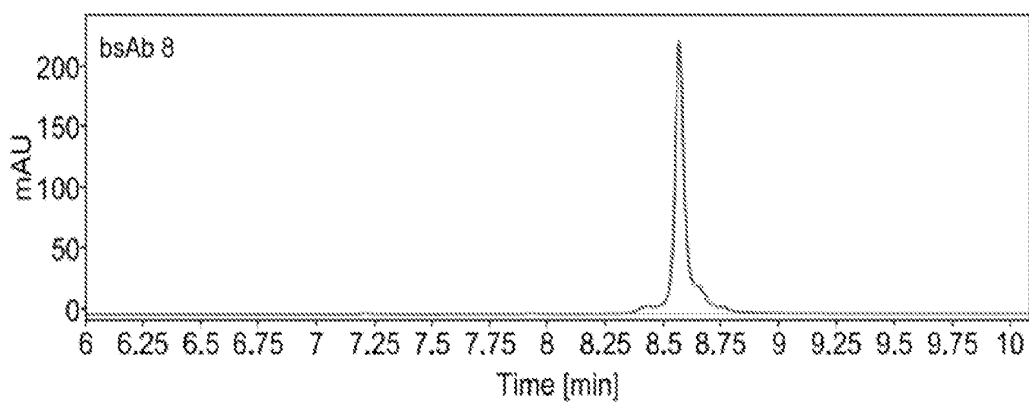


FIG. 10C

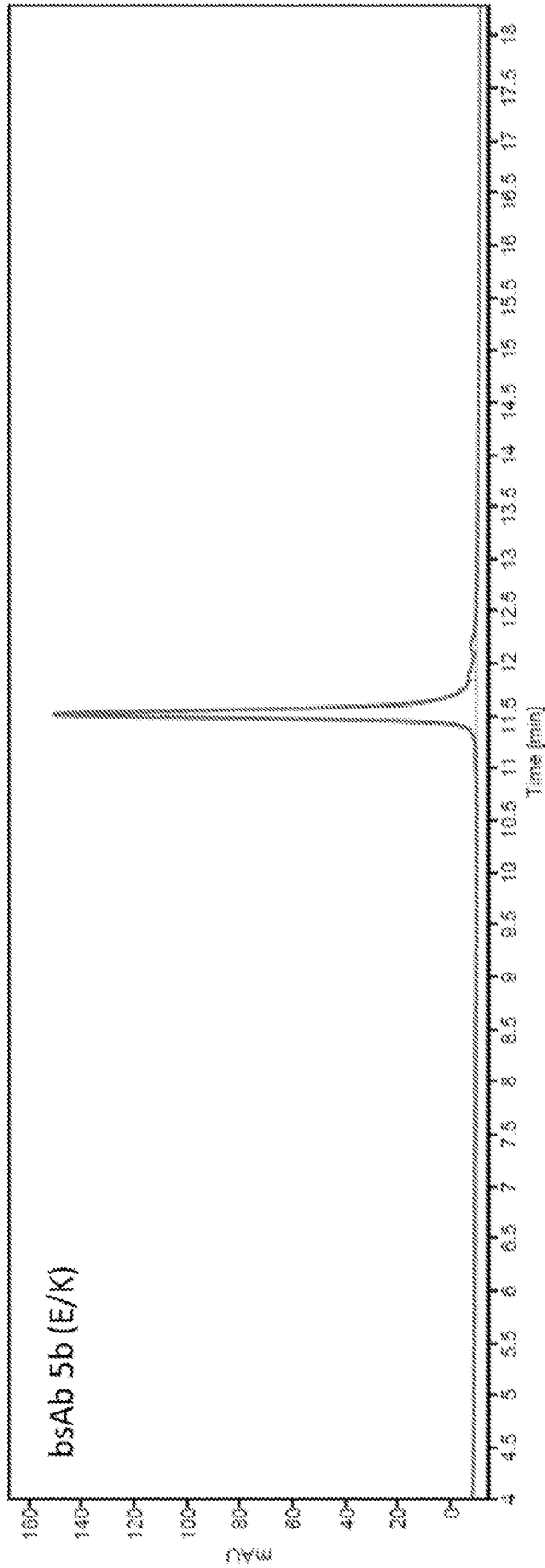


FIG. 10D

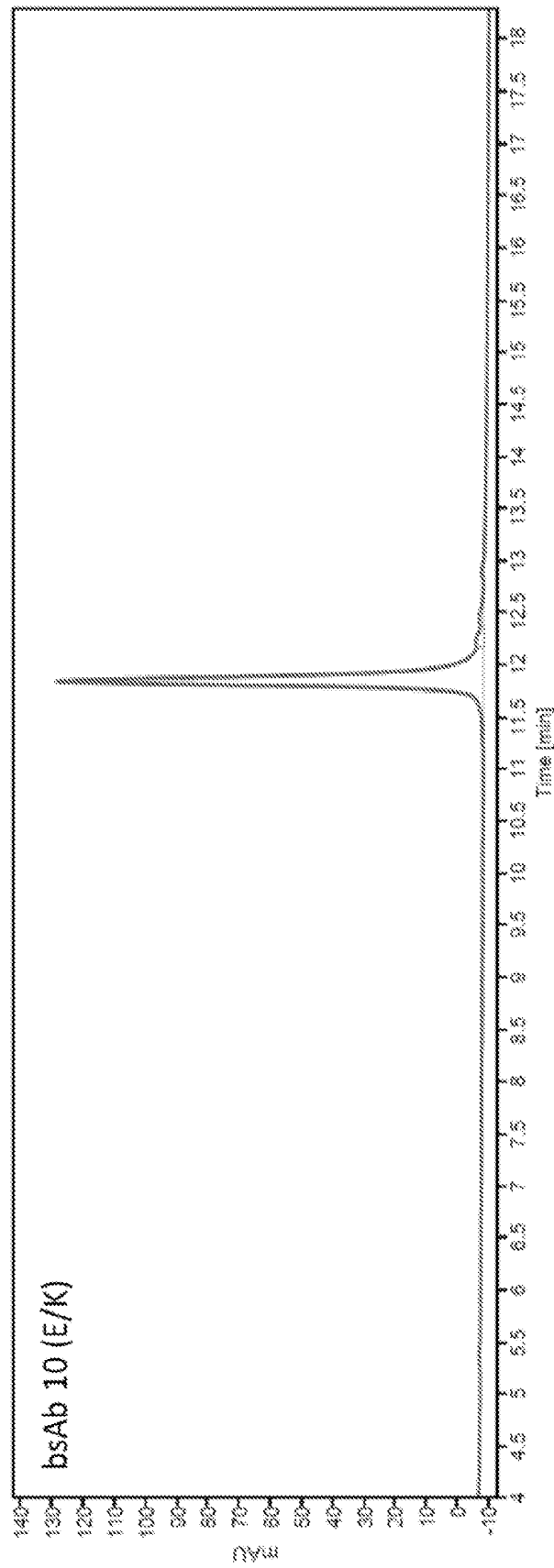


FIG. 10E

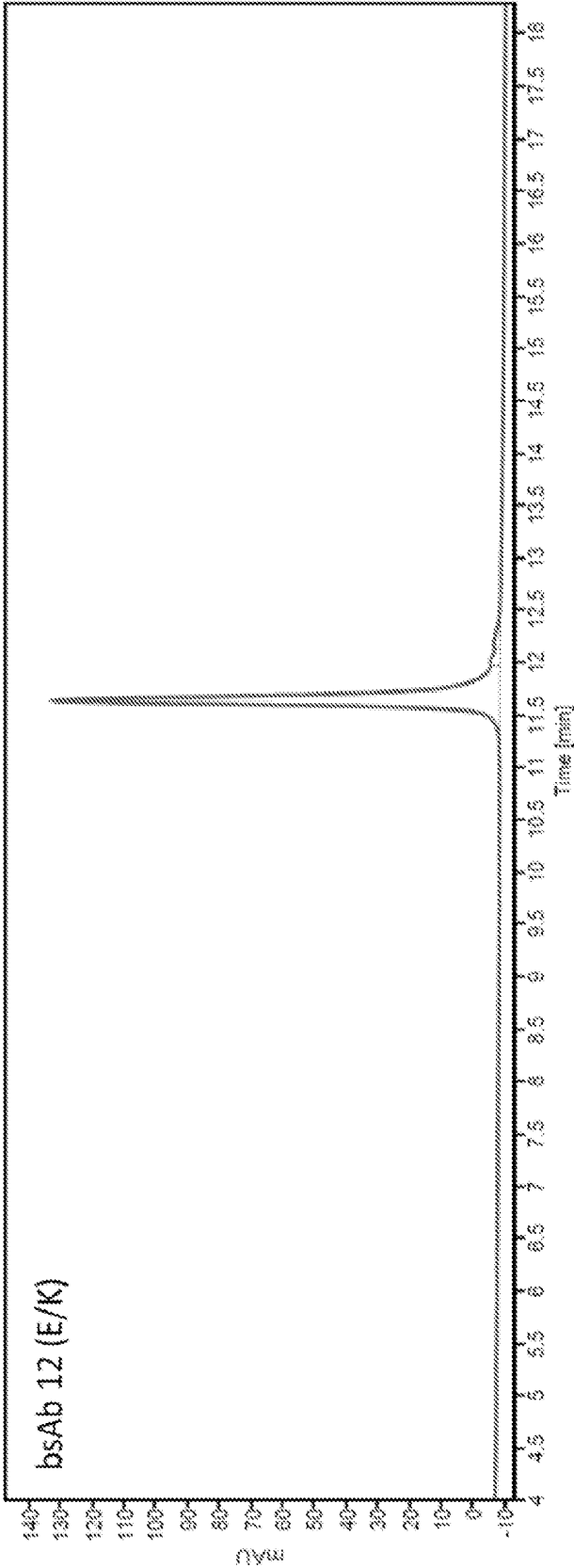


FIG. 10F

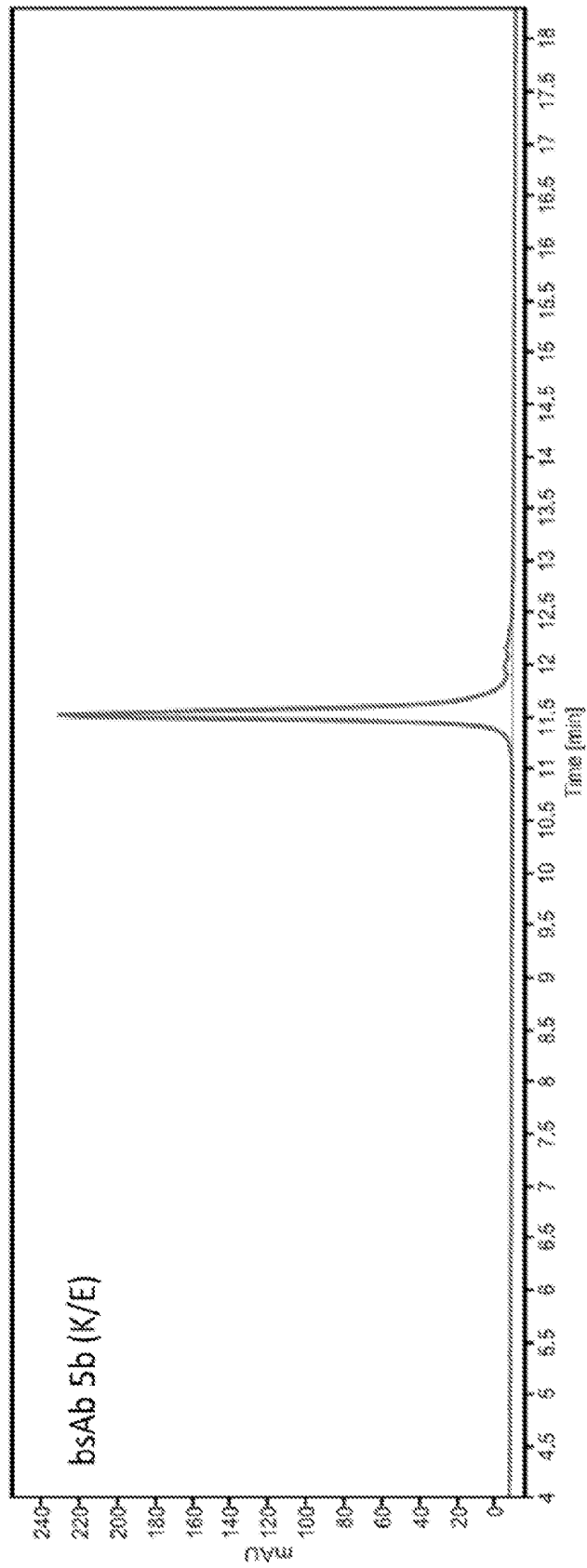


FIG. 10G

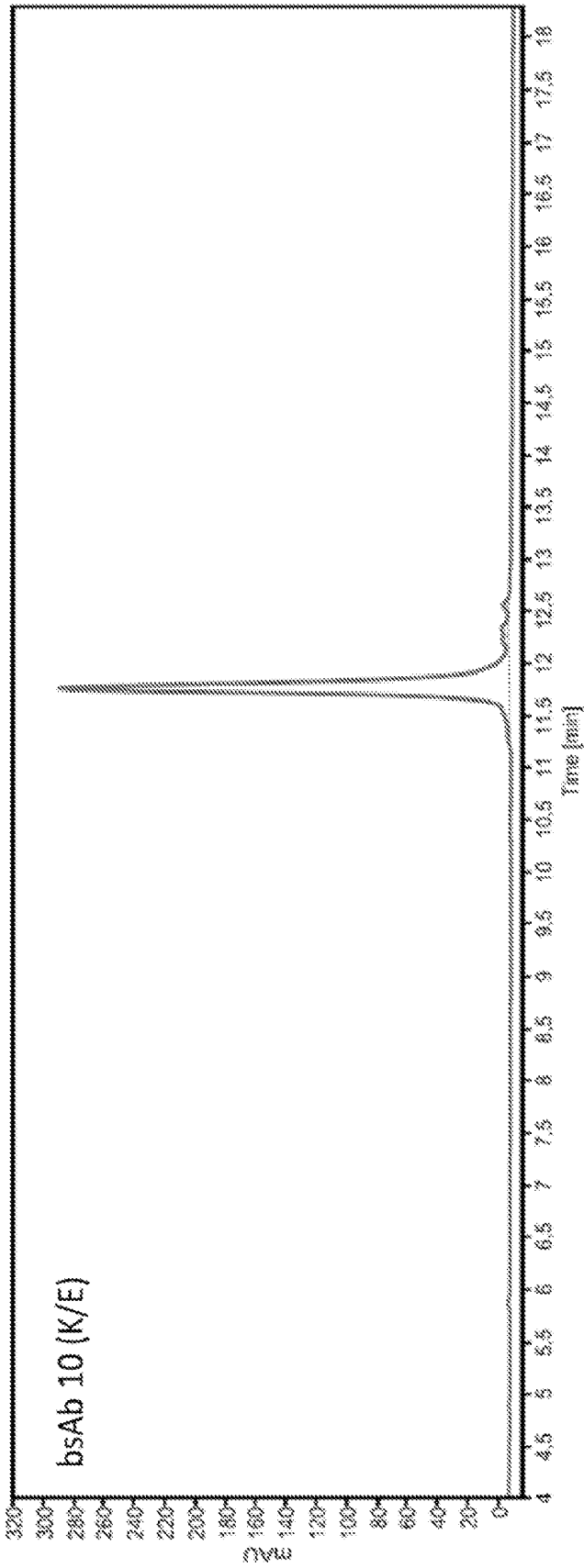


FIG. 10H

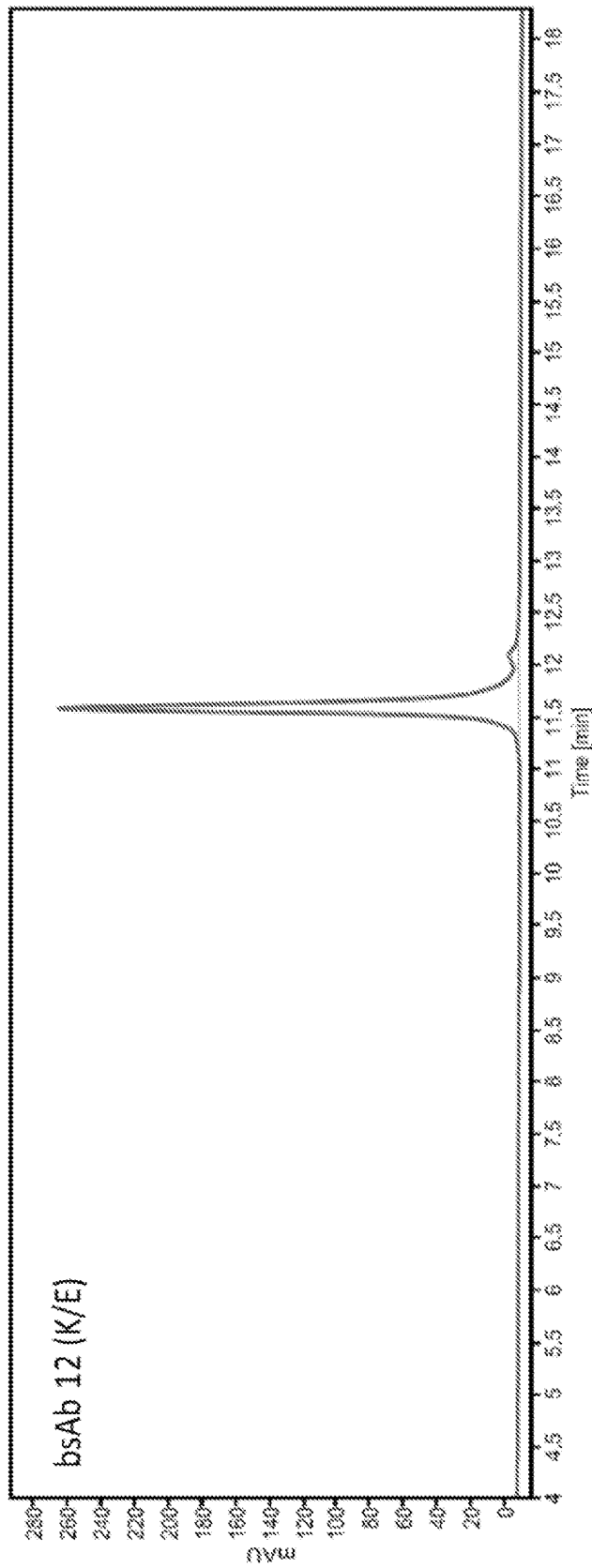


FIG. 10I

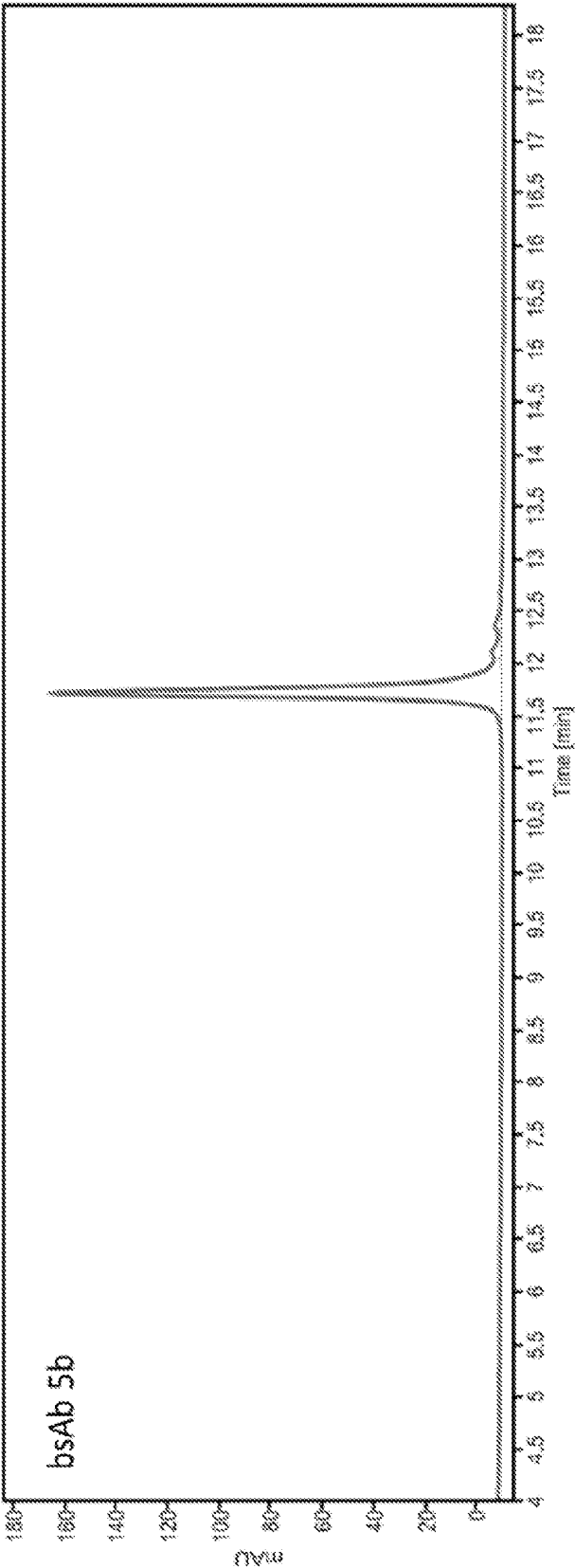


FIG. 10J

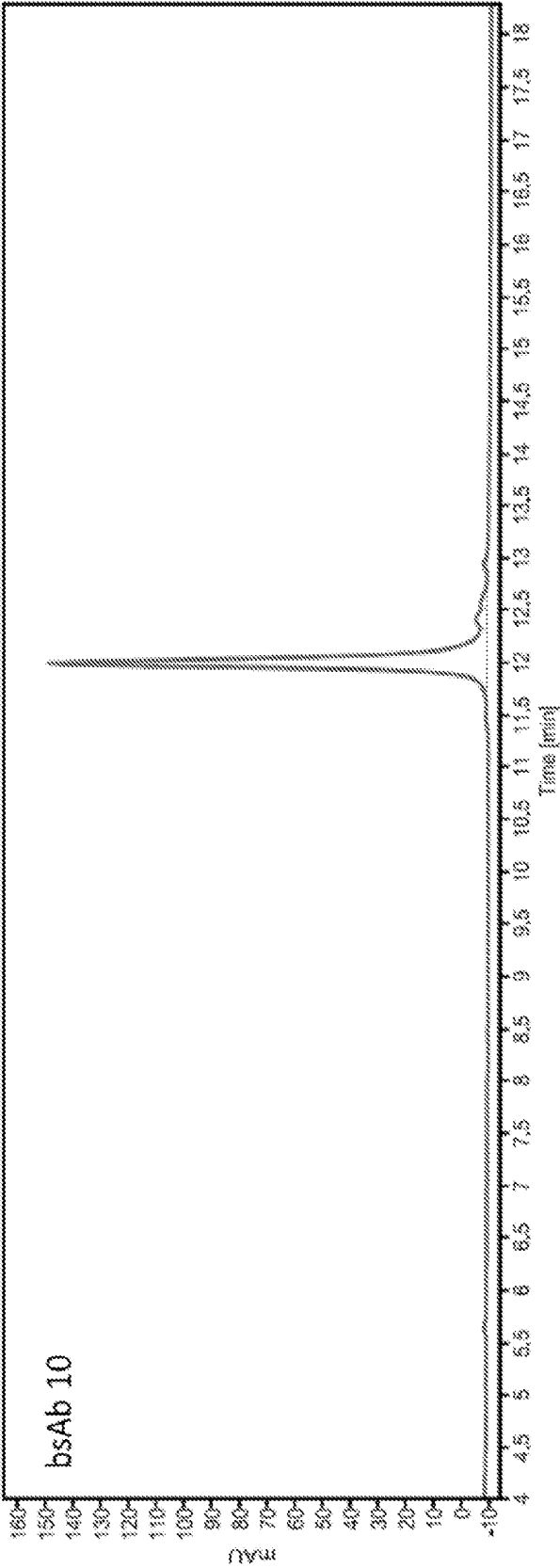


FIG. 10K

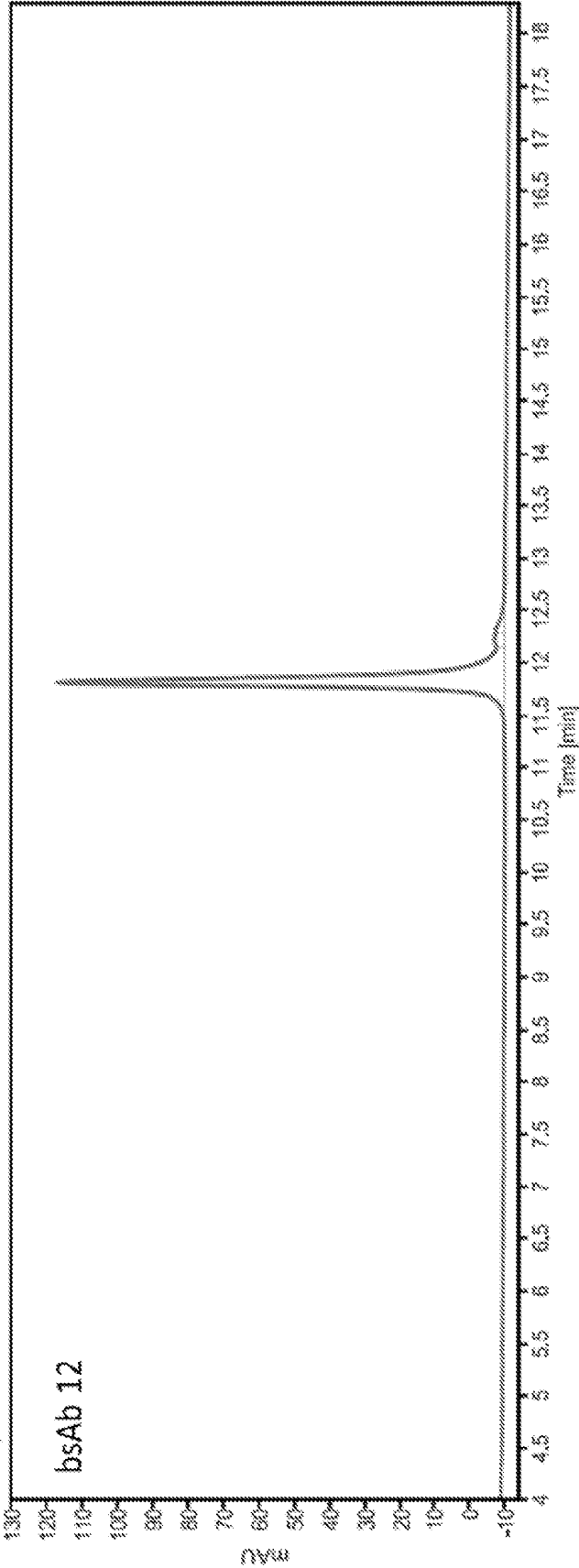


FIG. 10L

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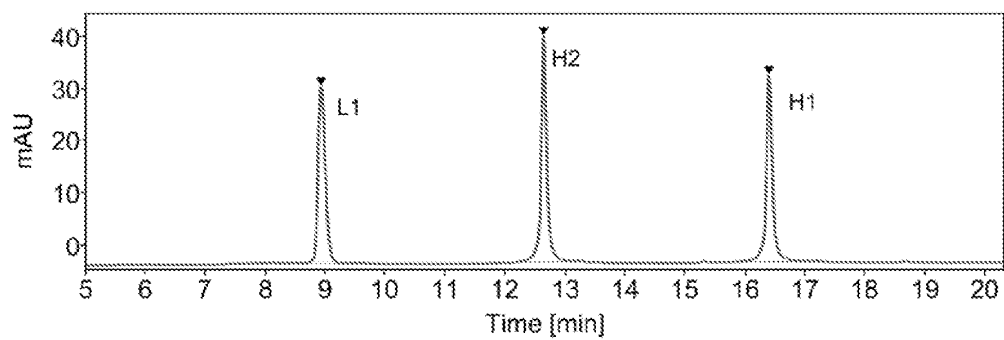


FIG. 11A

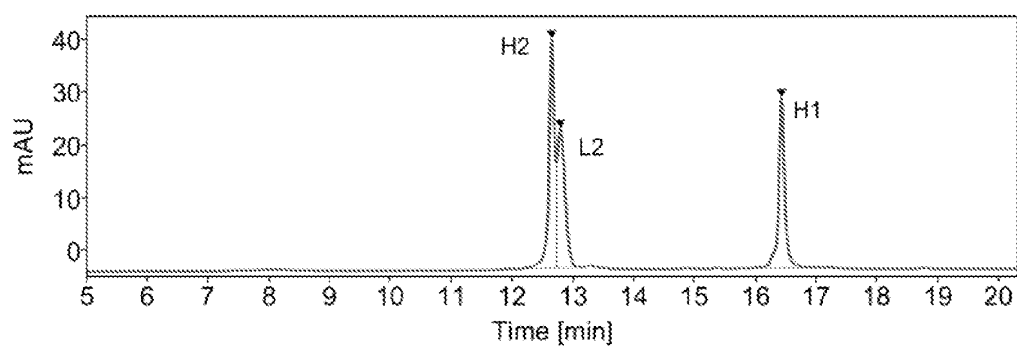
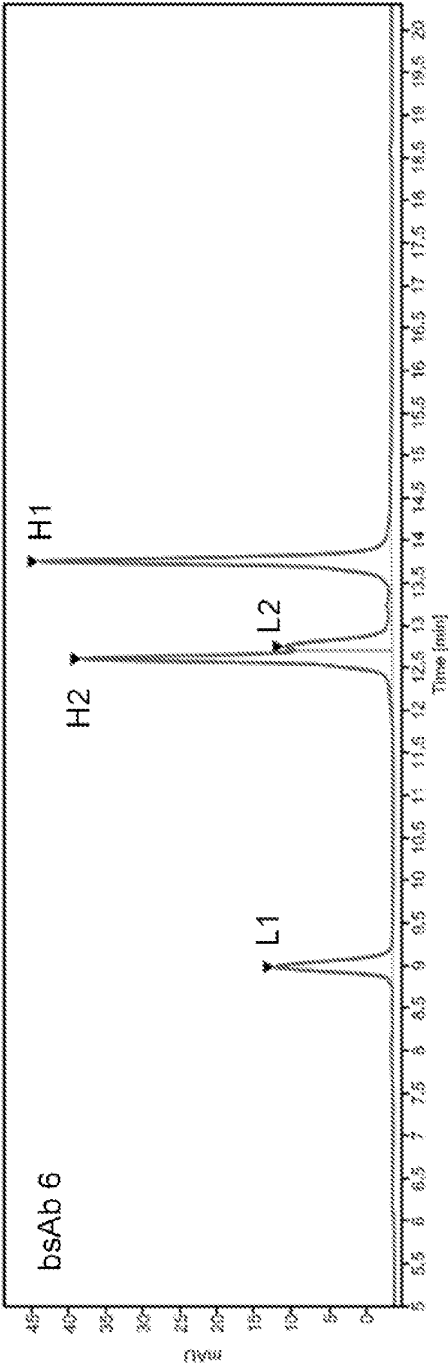
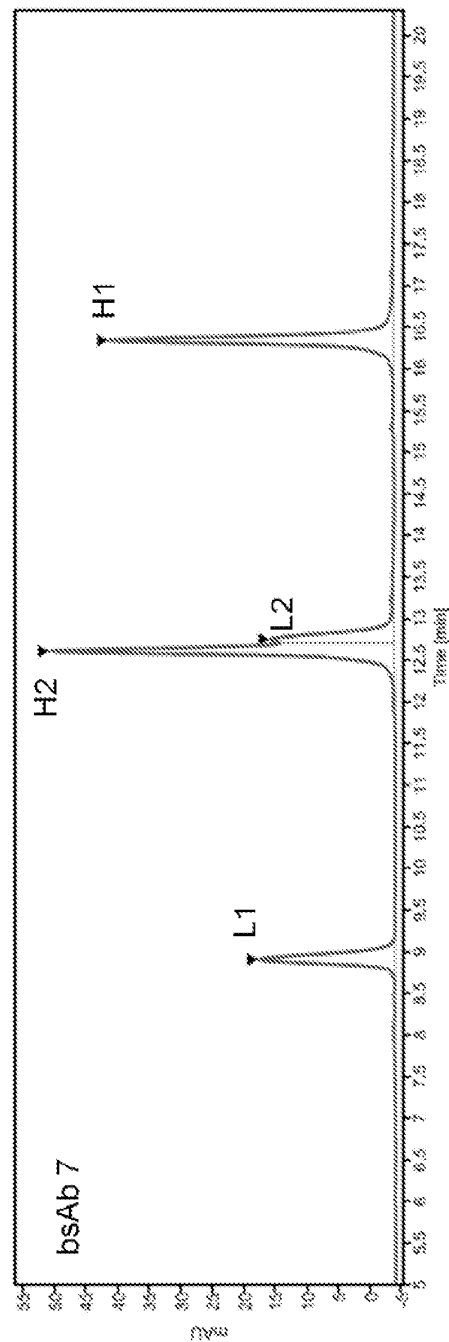


FIG. 11B



Chain	Area%	Expected Area%
L1	15.52%	13.54%
H2	32.33%	36.36%
L2	14.64%	12.40%
H1	37.51%	37.71%

FIG. 11C



Chain	Area%	Expected Area%
L1	16.89%	13.54%
H2	35.06%	36.36%
L2	15.40%	12.40%
H1	32.66%	37.71%

FIG. 11D

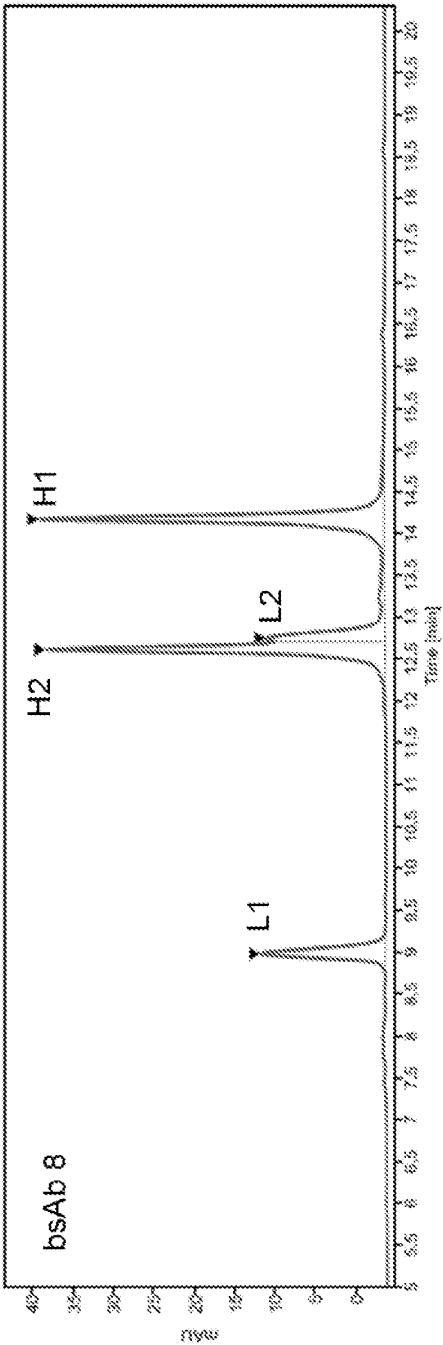
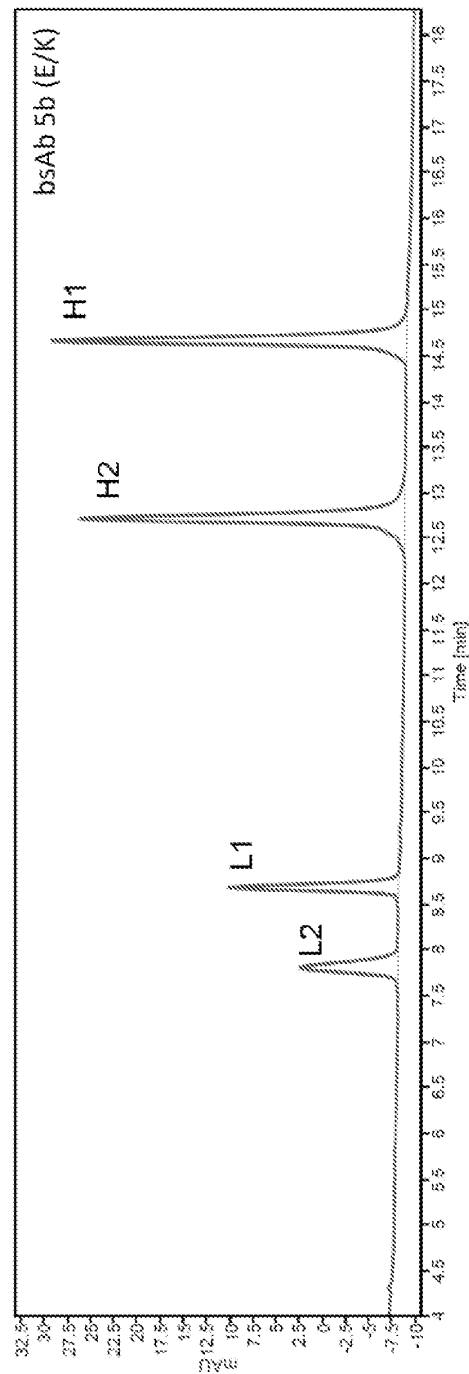


FIG. 11E



Chain	Area%	Expected Area%
H1	35.42	37.71
L1	14.11	13.54
H2	37.71	36.36
L2	12.76	12.40

FIG. 11F

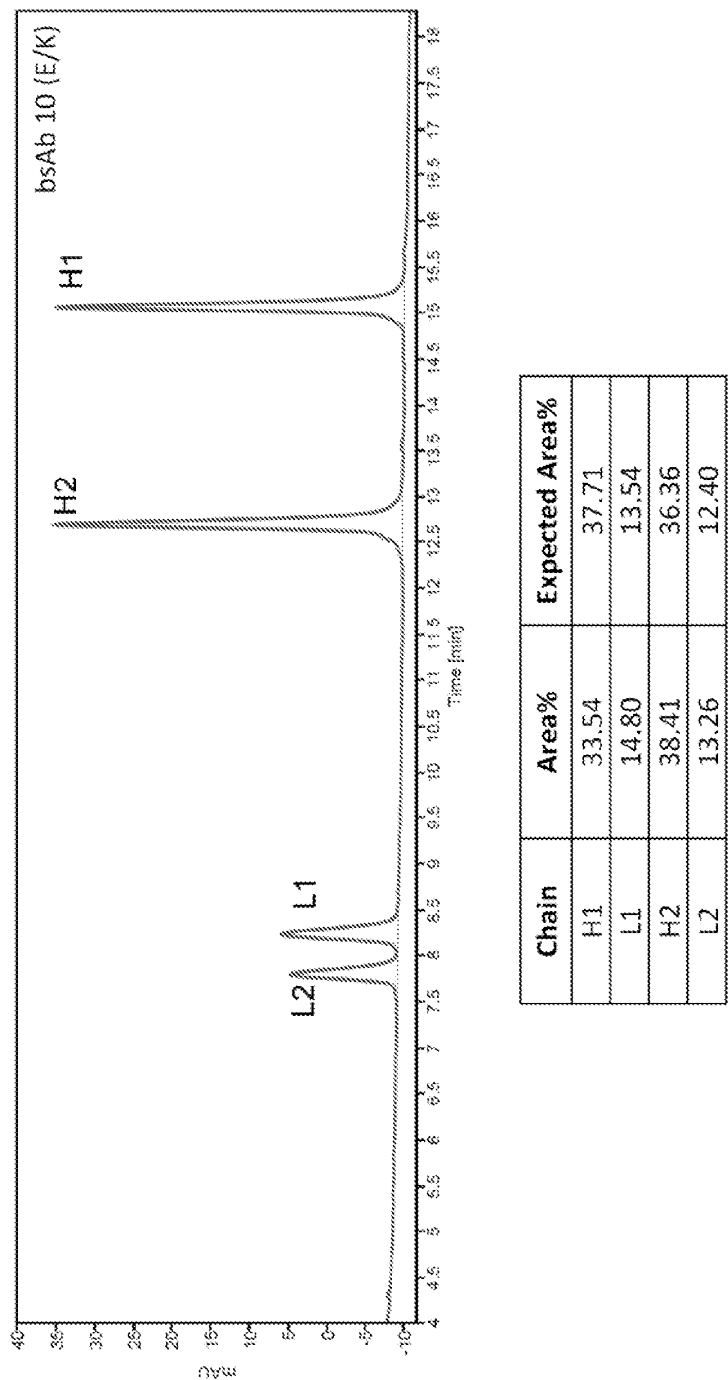
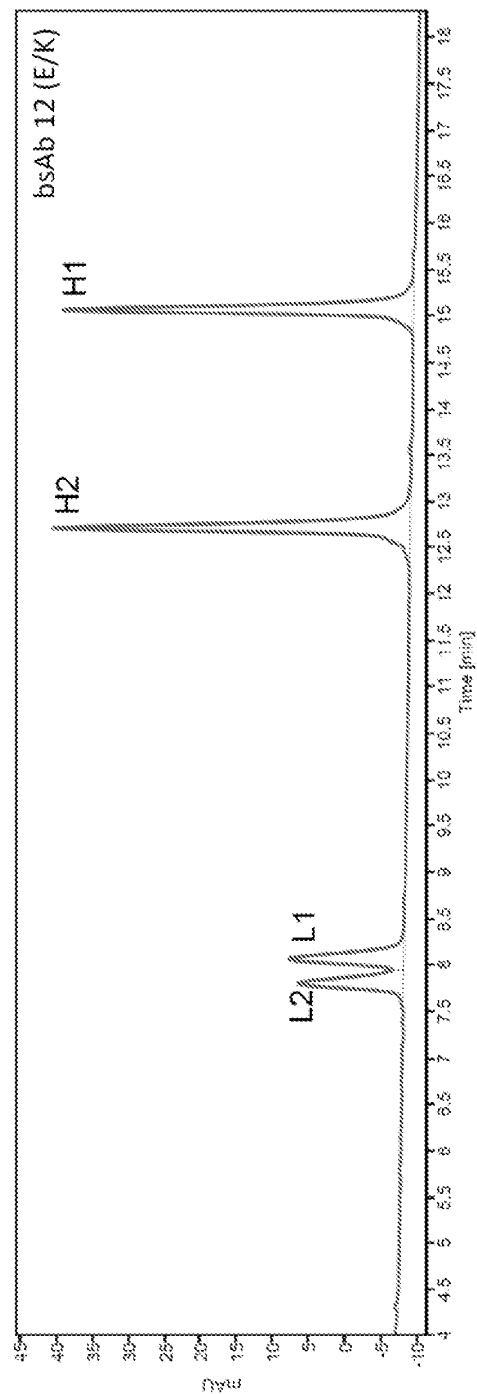
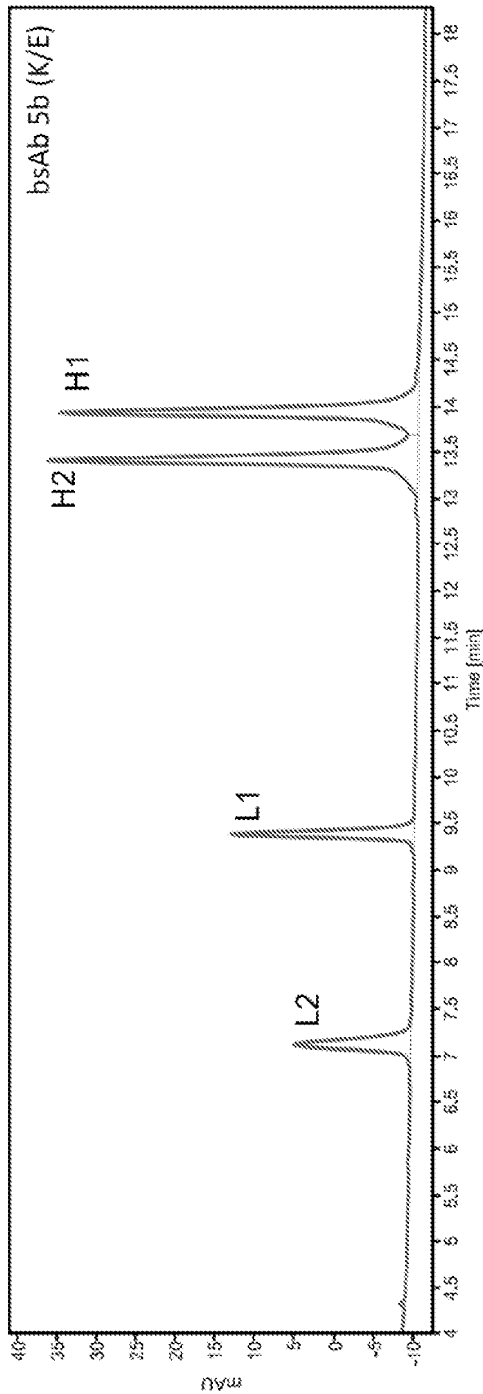


FIG. 11G



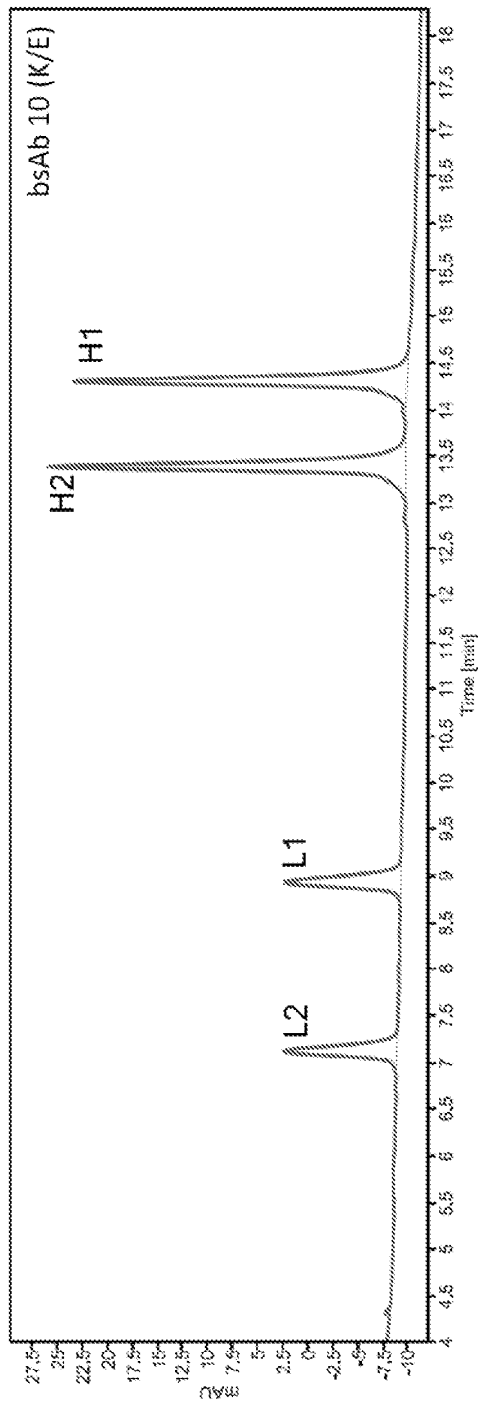
Chain	Area%	Expected Area%
H1	33.90	37.71
L1	14.49	13.54
H2	38.35	36.36
L2	13.26	12.40

FIG. 11H



Chain	Area%	Expected Area%
H1	35.87	37.71
L1	13.73	13.54
H2	37.63	36.36
L2	12.77	12.40

FIG. 11I



Chain	Area%	Expected Area%
H1	34.02	37.71
L1	14.49	13.54
H2	37.99	36.36
L2	13.50	12.40

FIG. 11J

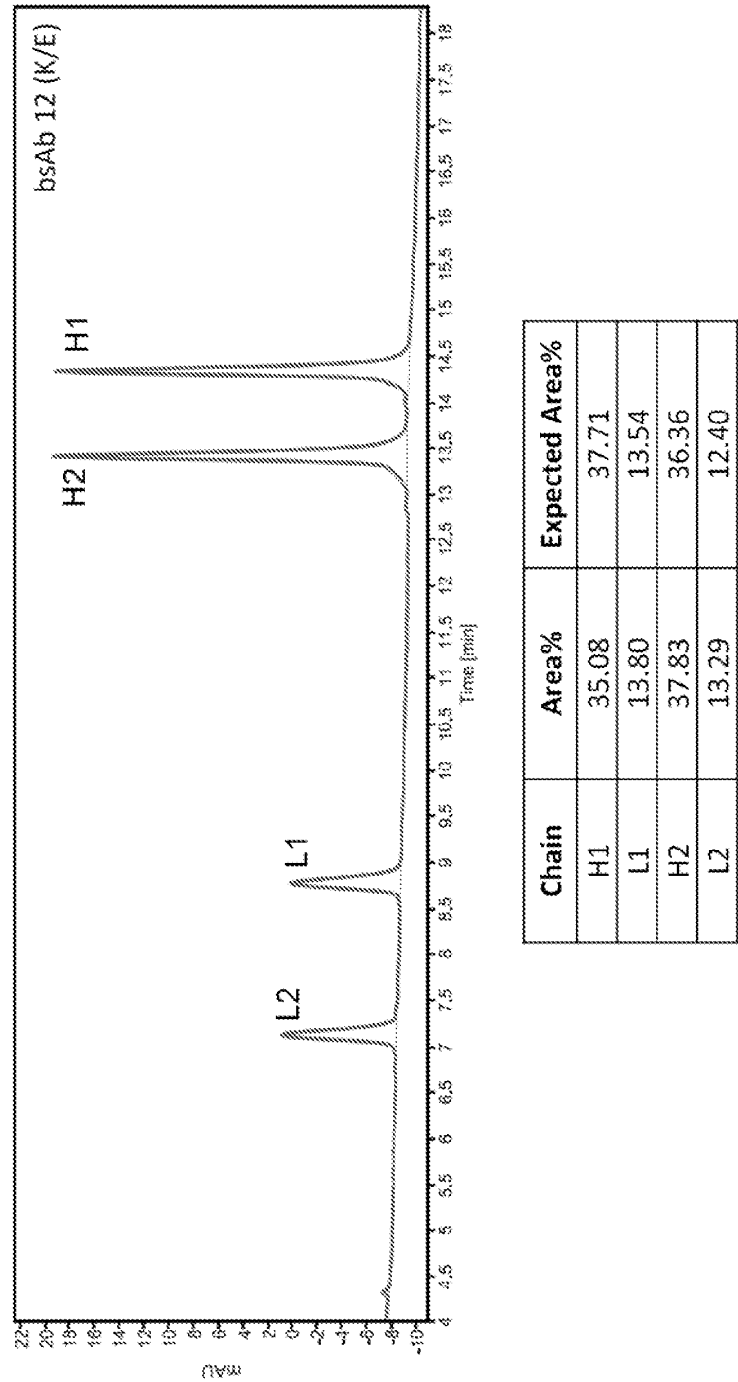
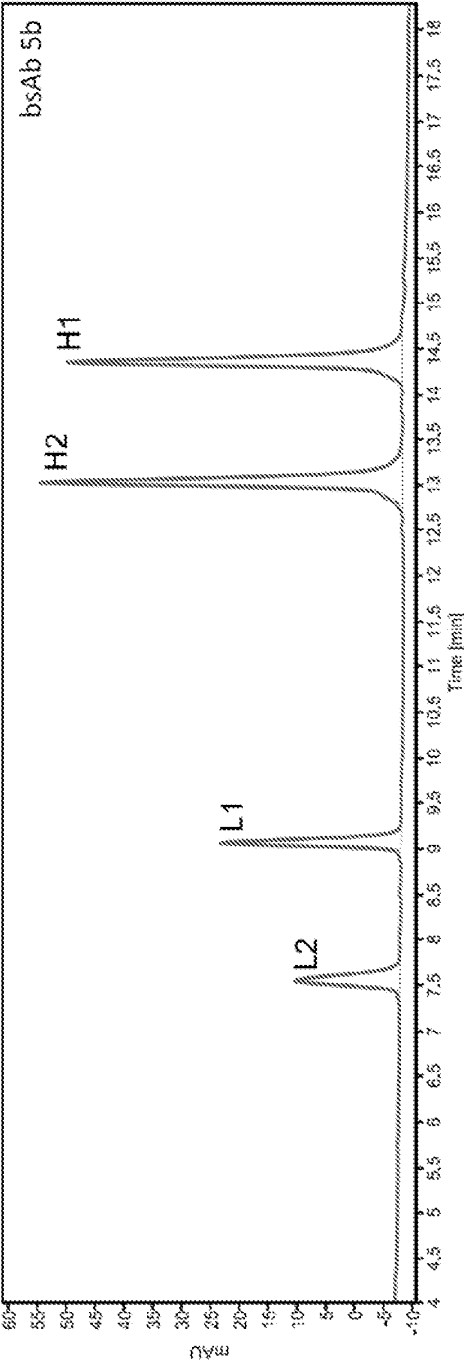
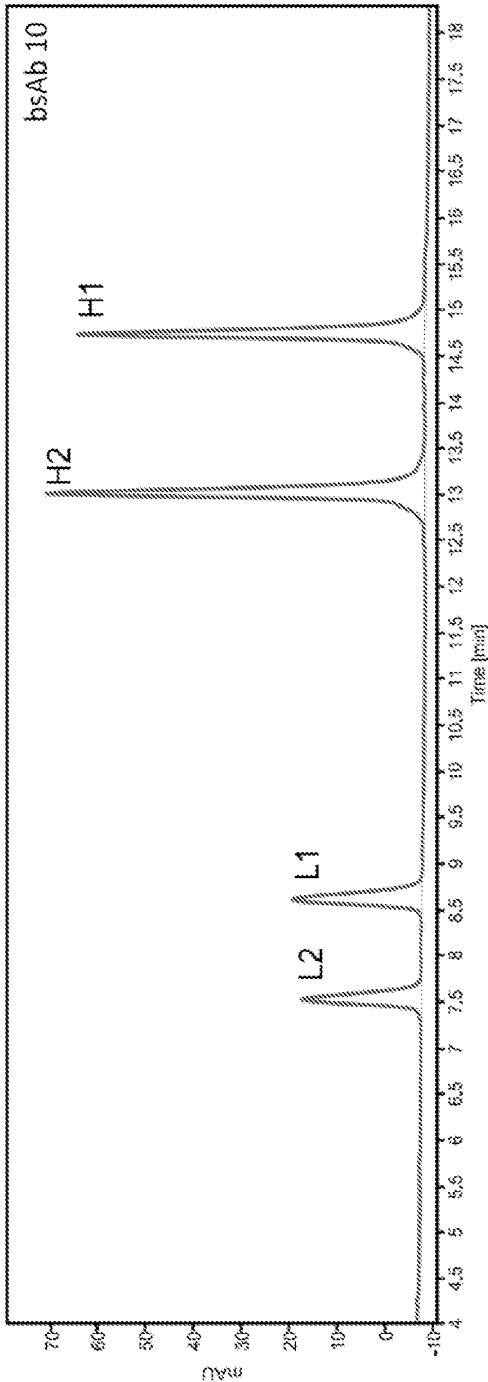


FIG. 11K



Chain	Area%	Expected Area%
H1	34.74	37.71
L1	14.71	13.54
H2	38.01	36.36
L2	12.54	12.40

FIG. 11L



Chain	Area%	Expected Area%
H1	33.04	37.71
L1	15.06	13.54
H2	38.80	36.36
L2	13.09	12.40

FIG. 11M

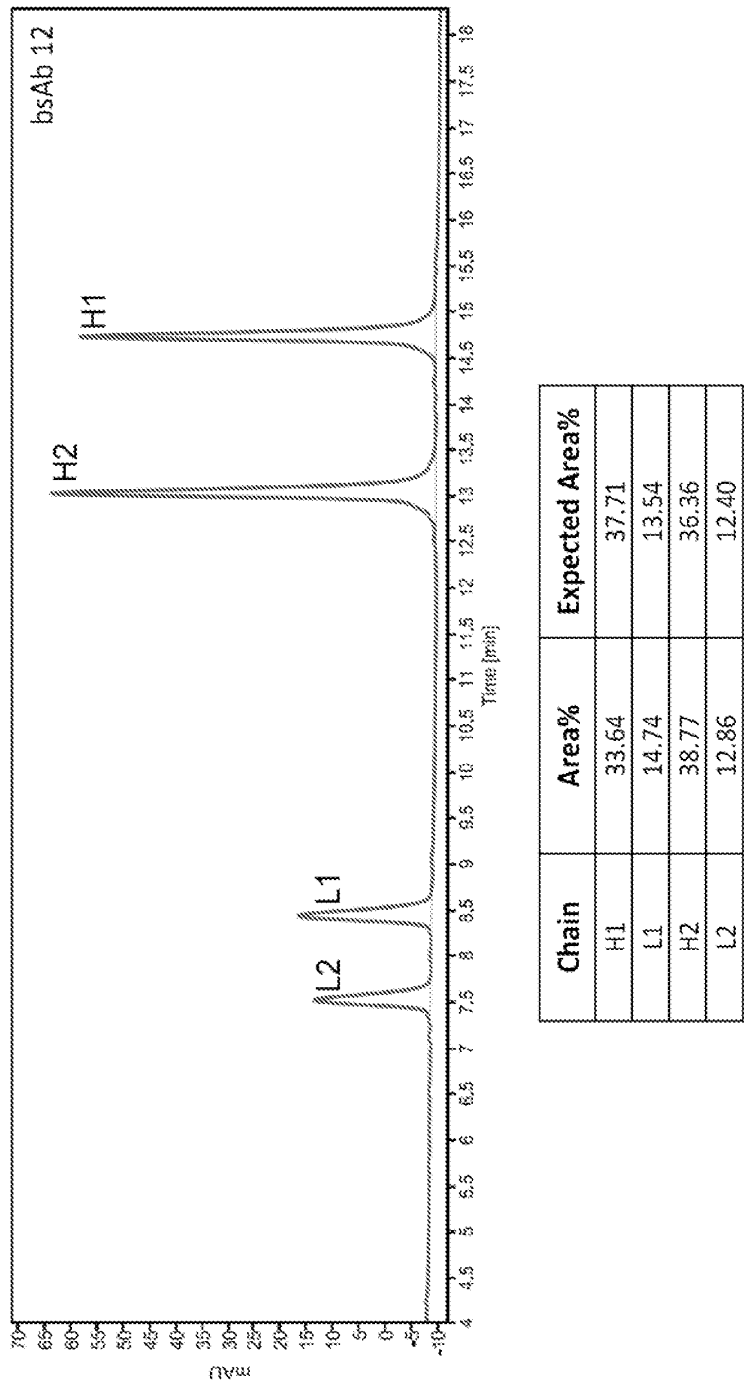


FIG. 11N

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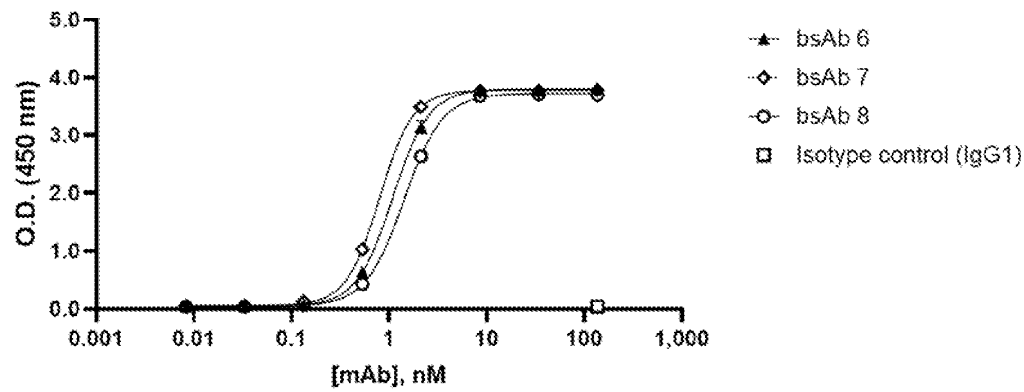


FIG. 12A

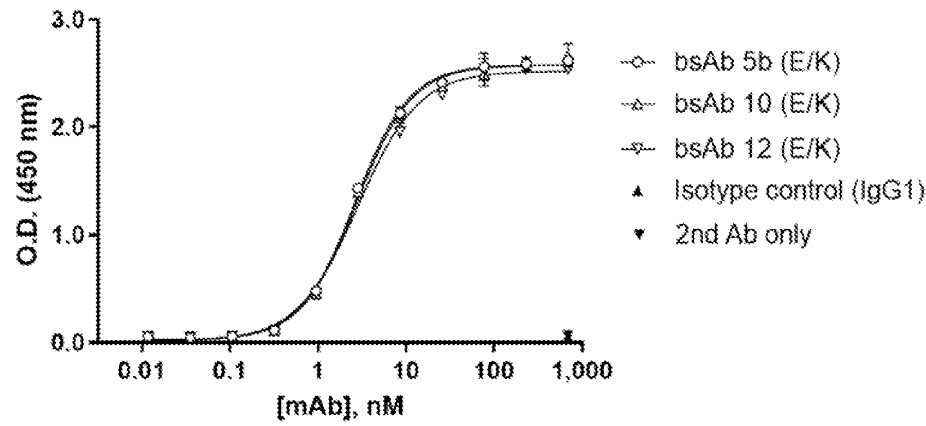


FIG. 12B

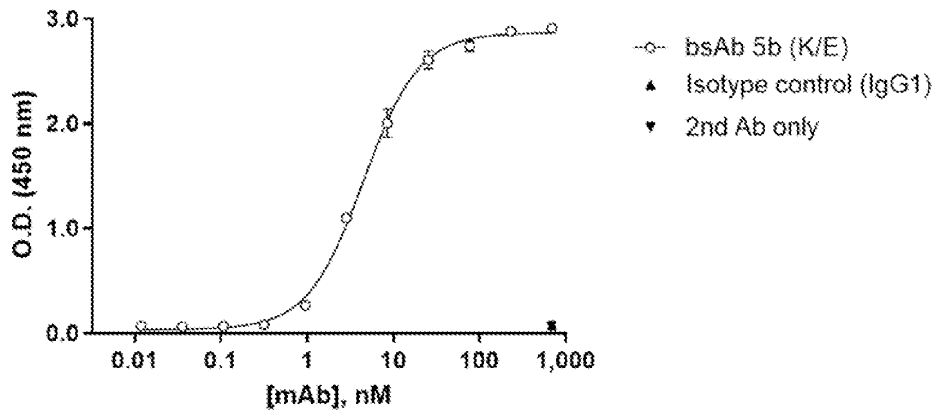


FIG. 12C

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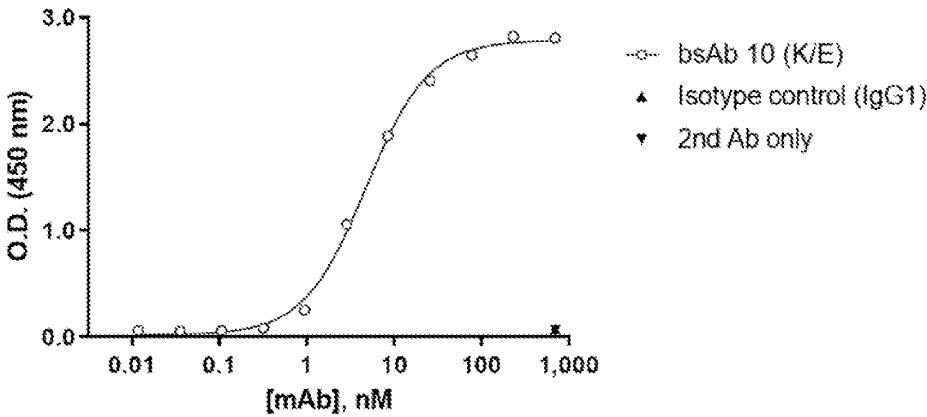


FIG. 12D

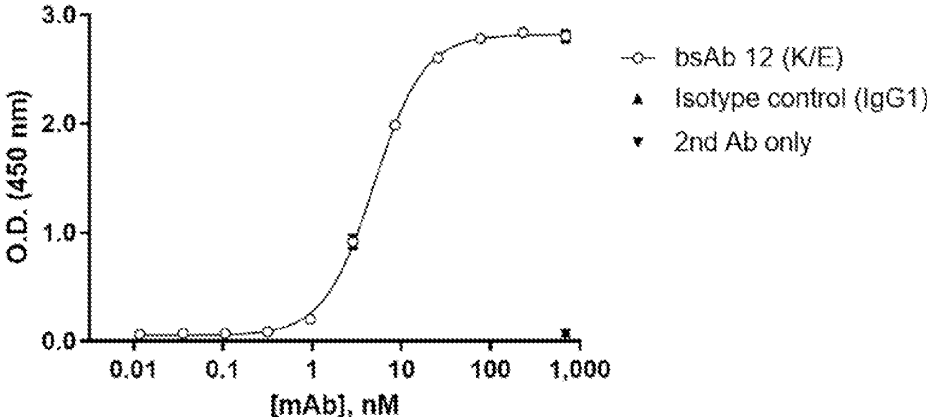


FIG. 12E

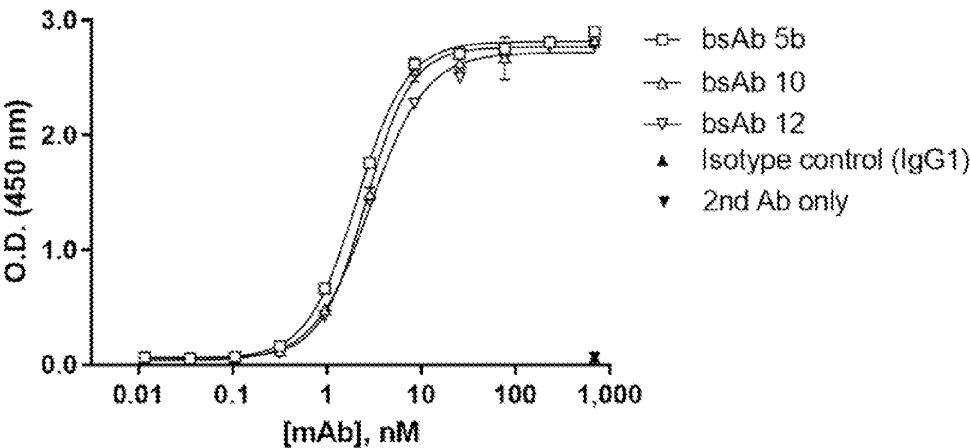


FIG. 12F

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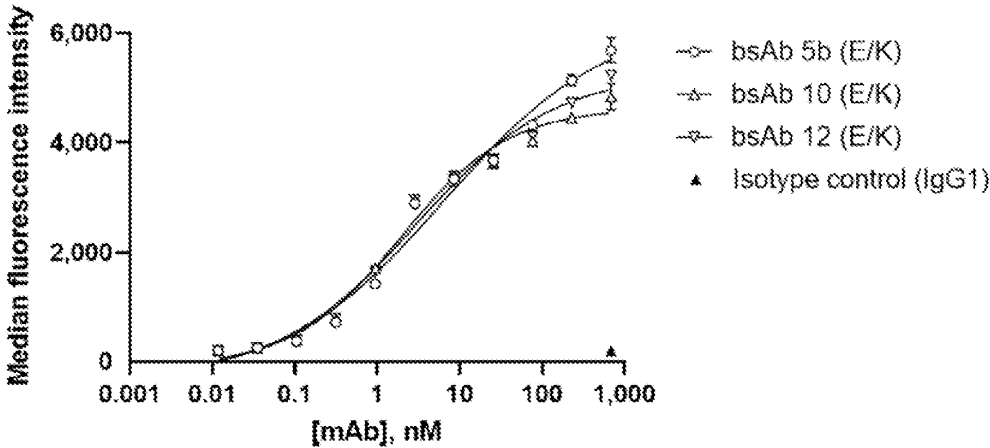


FIG. 13A

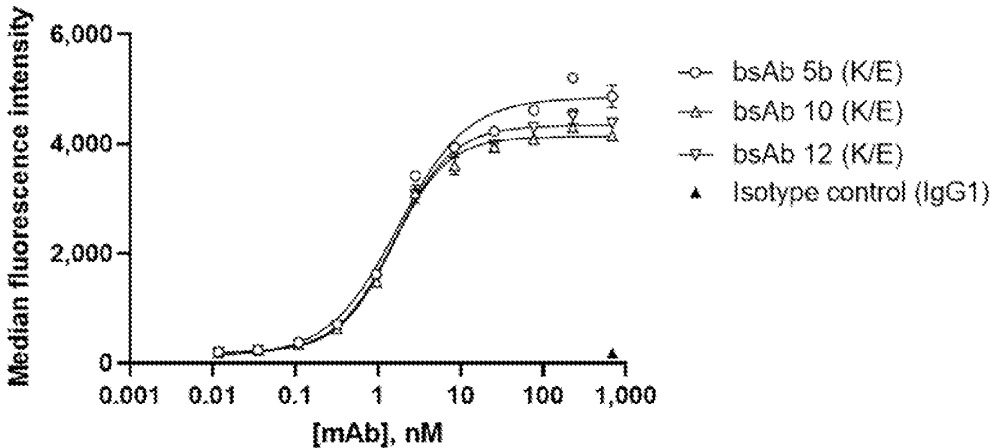


FIG. 13B

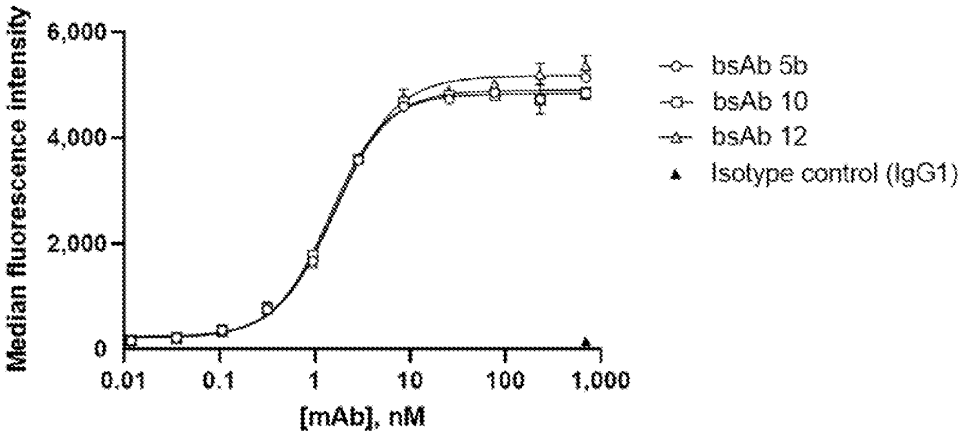


FIG. 13C

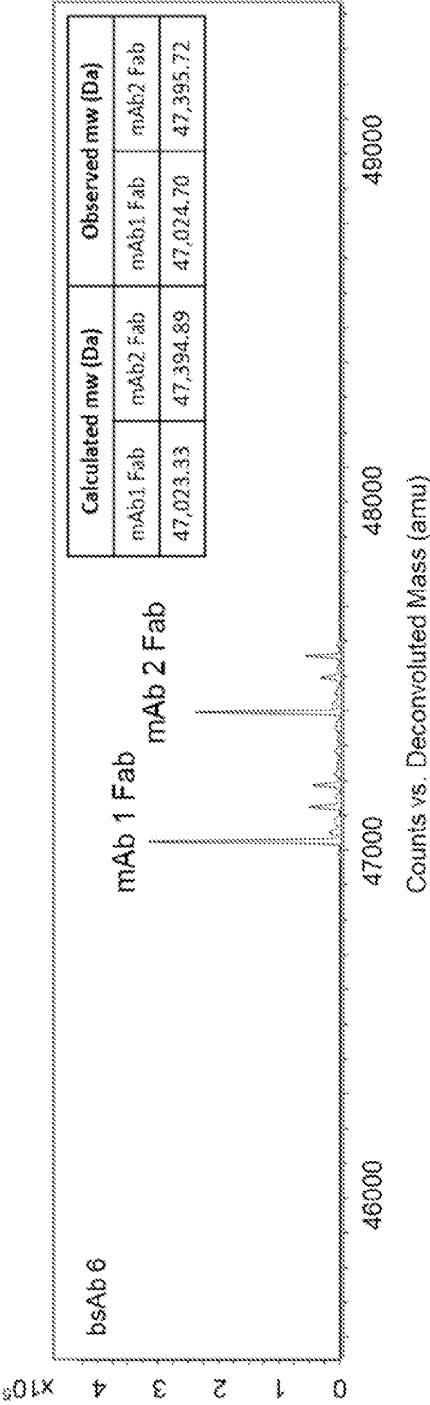


FIG. 14A

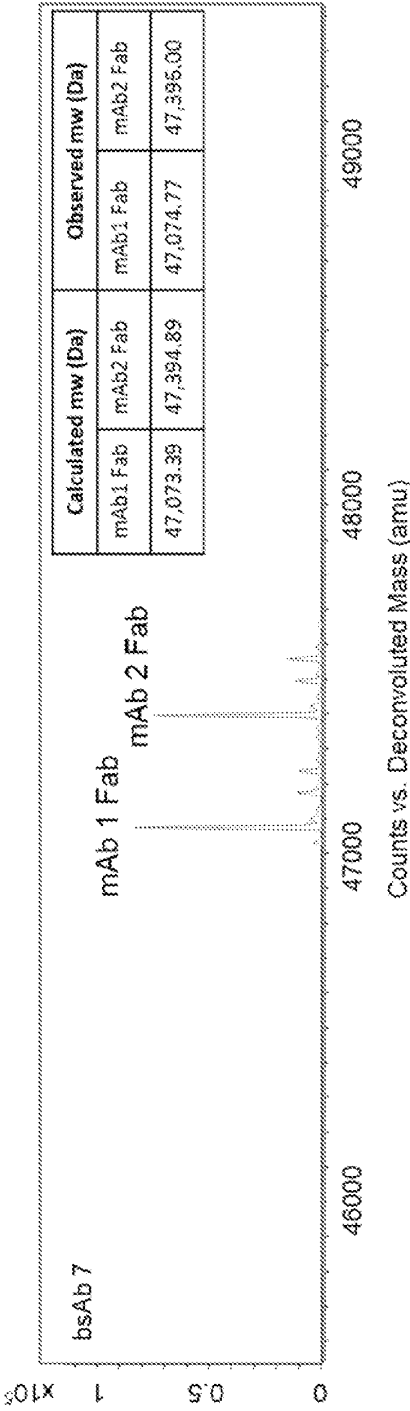


FIG. 14B

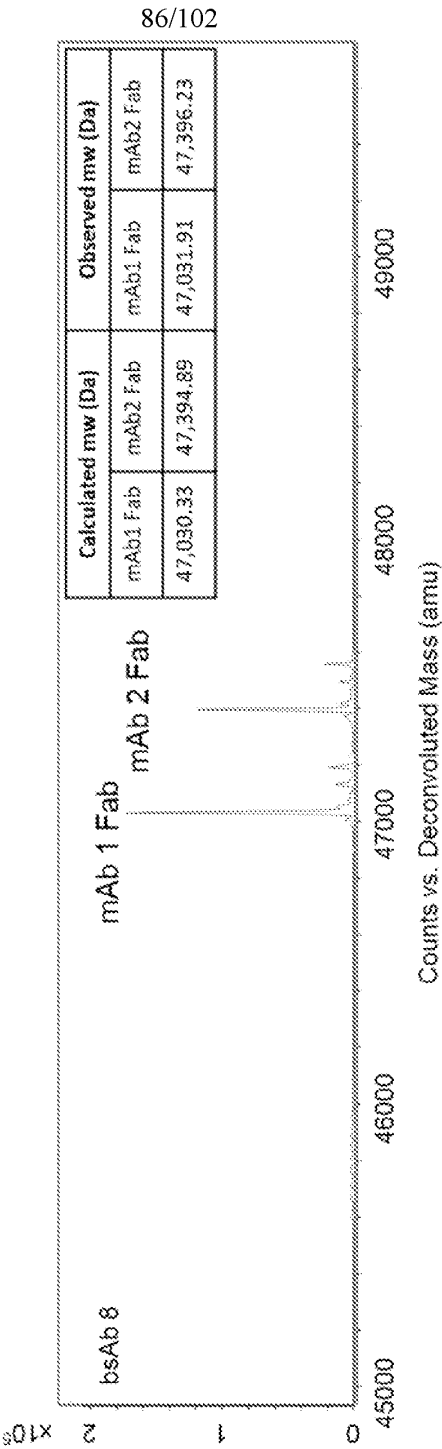
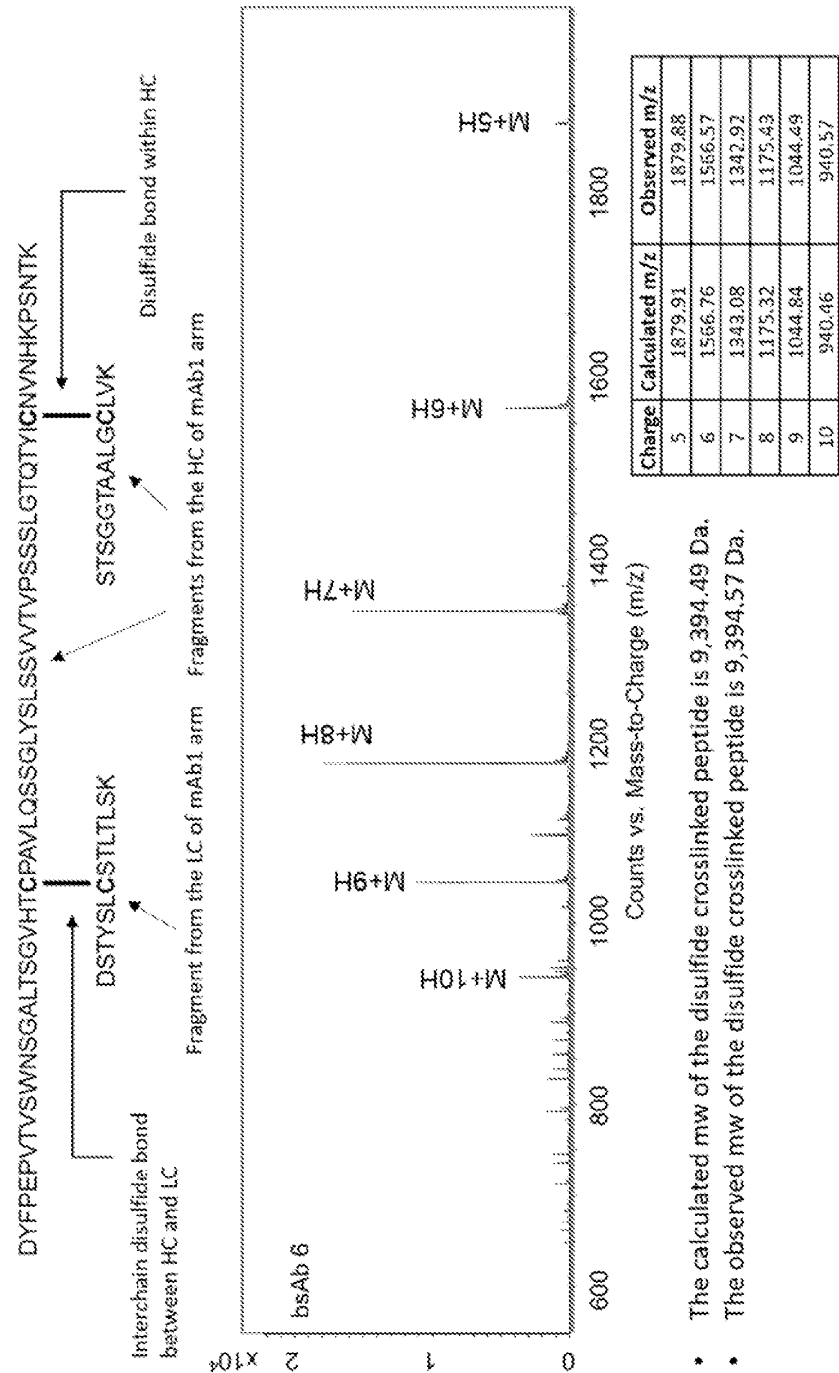
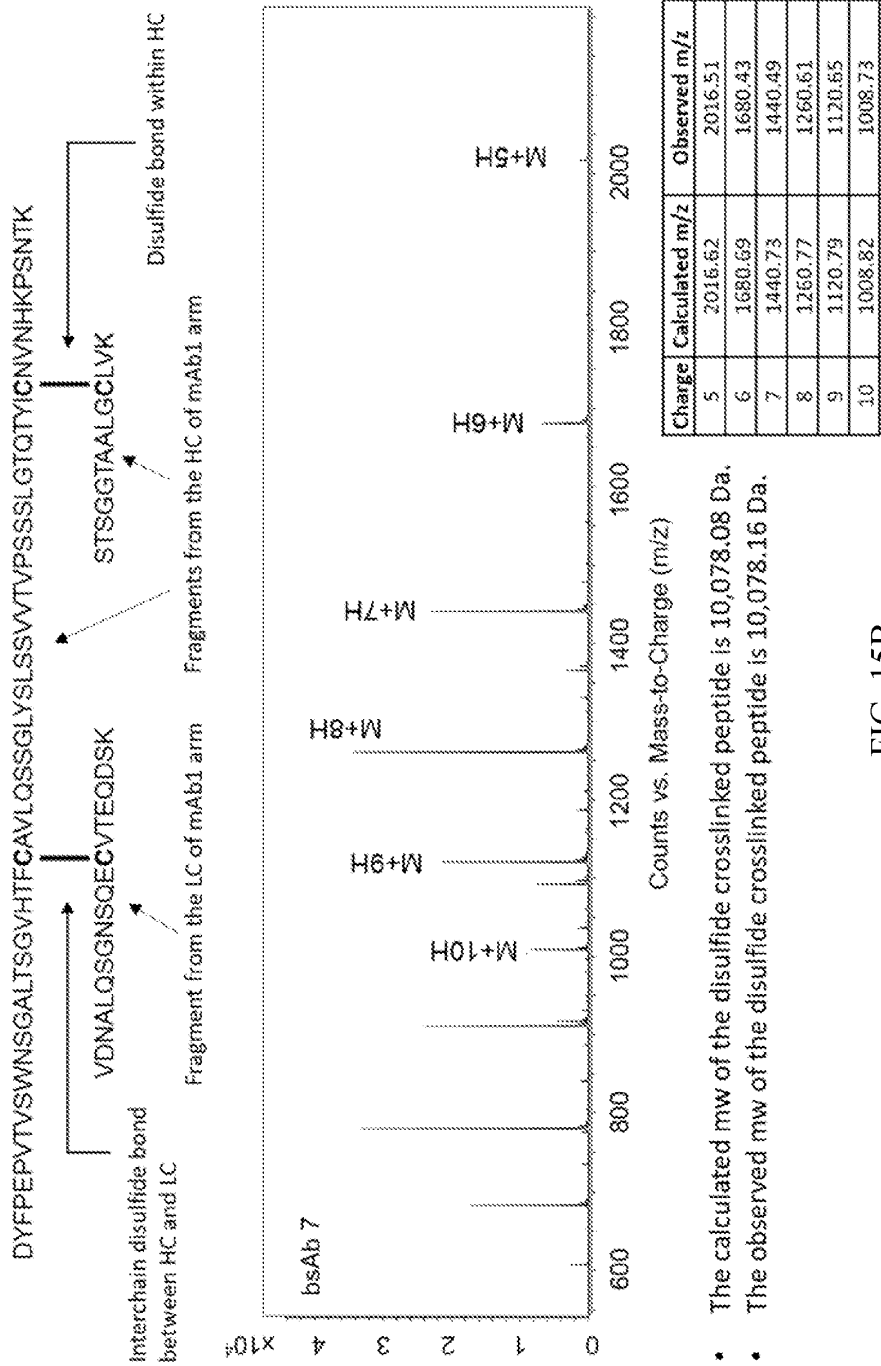


FIG. 14C



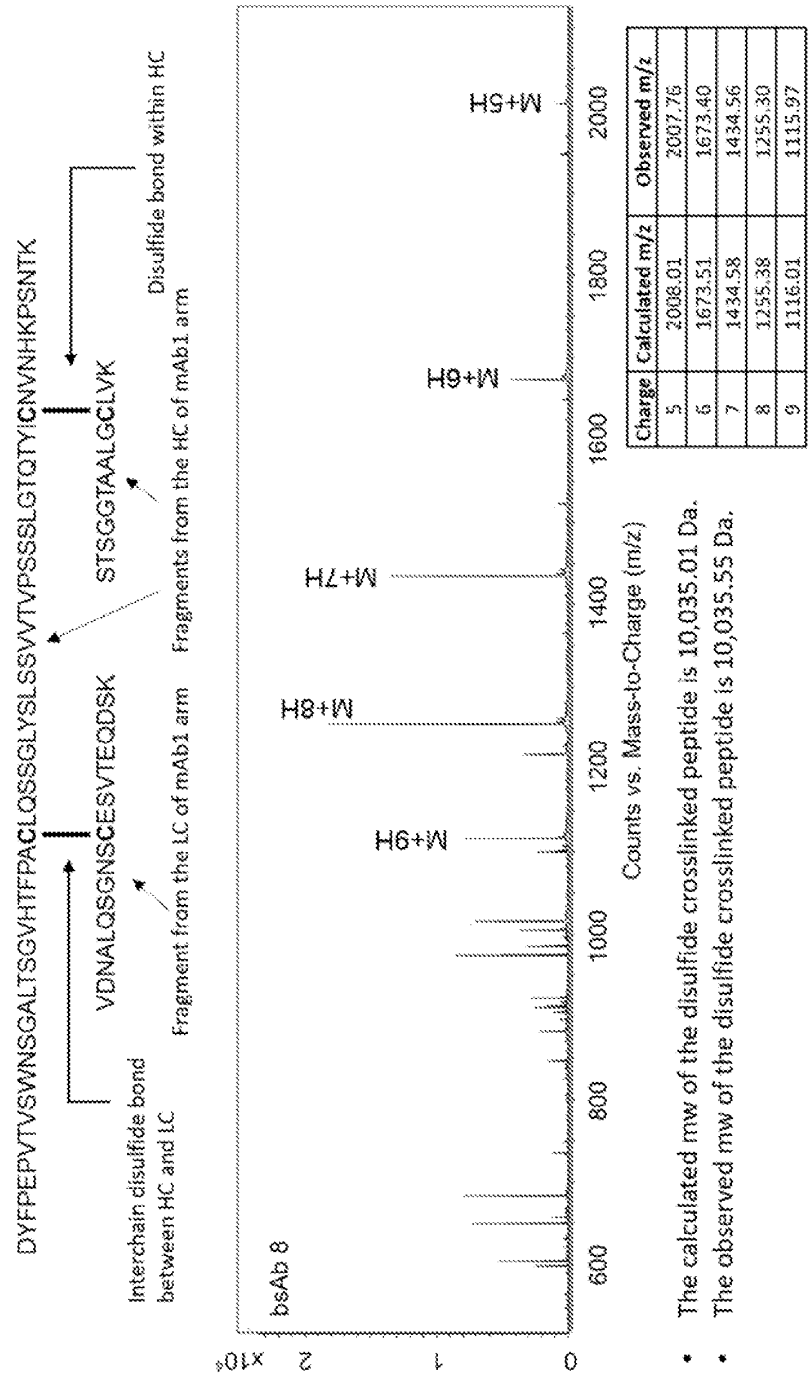
- The calculated mw of the disulfide crosslinked peptide is 9,394.49 Da.
- The observed mw of the disulfide crosslinked peptide is 9,394.57 Da.

FIG. 15A



- The calculated mw of the disulfide crosslinked peptide is 10,078.08 Da.
- The observed mw of the disulfide crosslinked peptide is 10,078.16 Da.

FIG. 15B



- The calculated mw of the disulfide crosslinked peptide is 10,035.01 Da.
- The observed mw of the disulfide crosslinked peptide is 10,035.55 Da.

FIG. 15C

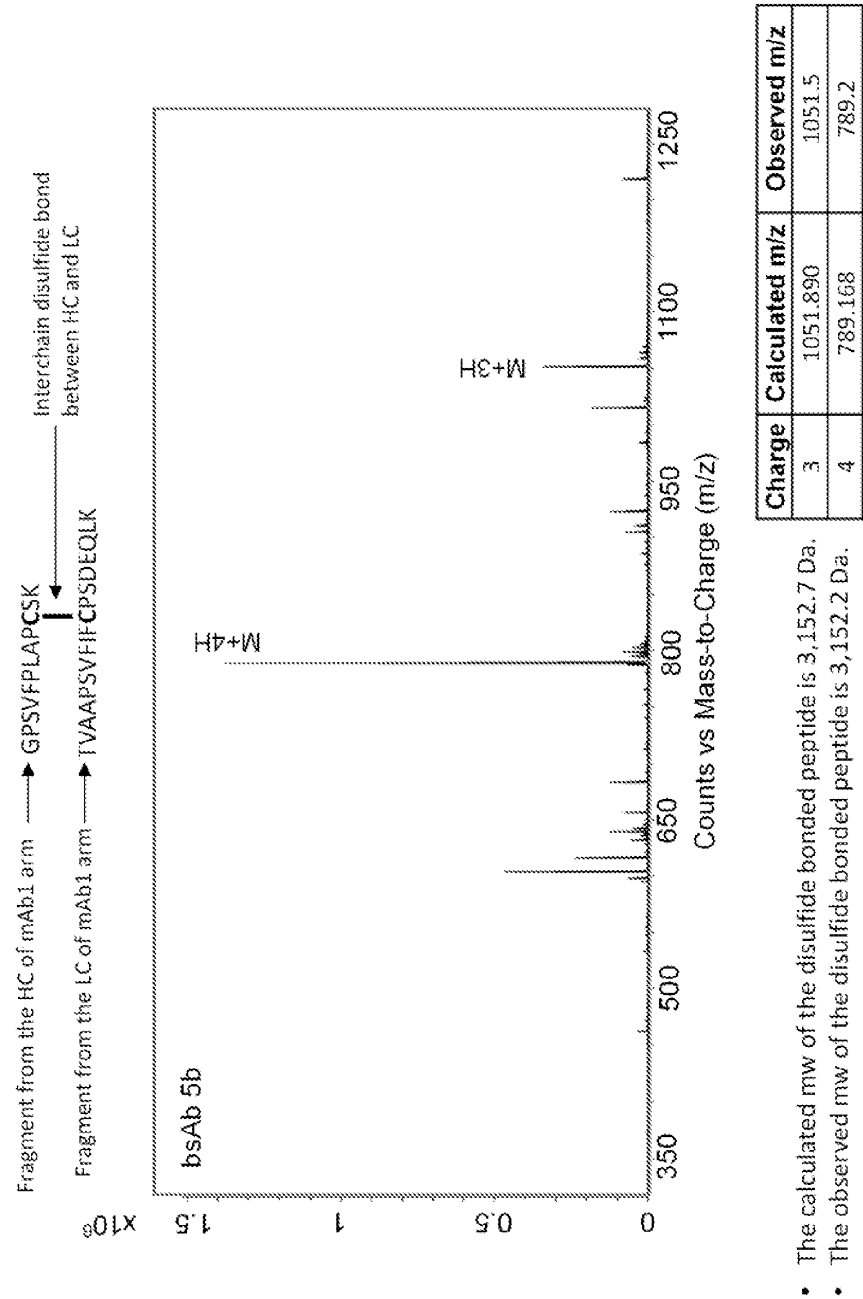


FIG. 15D

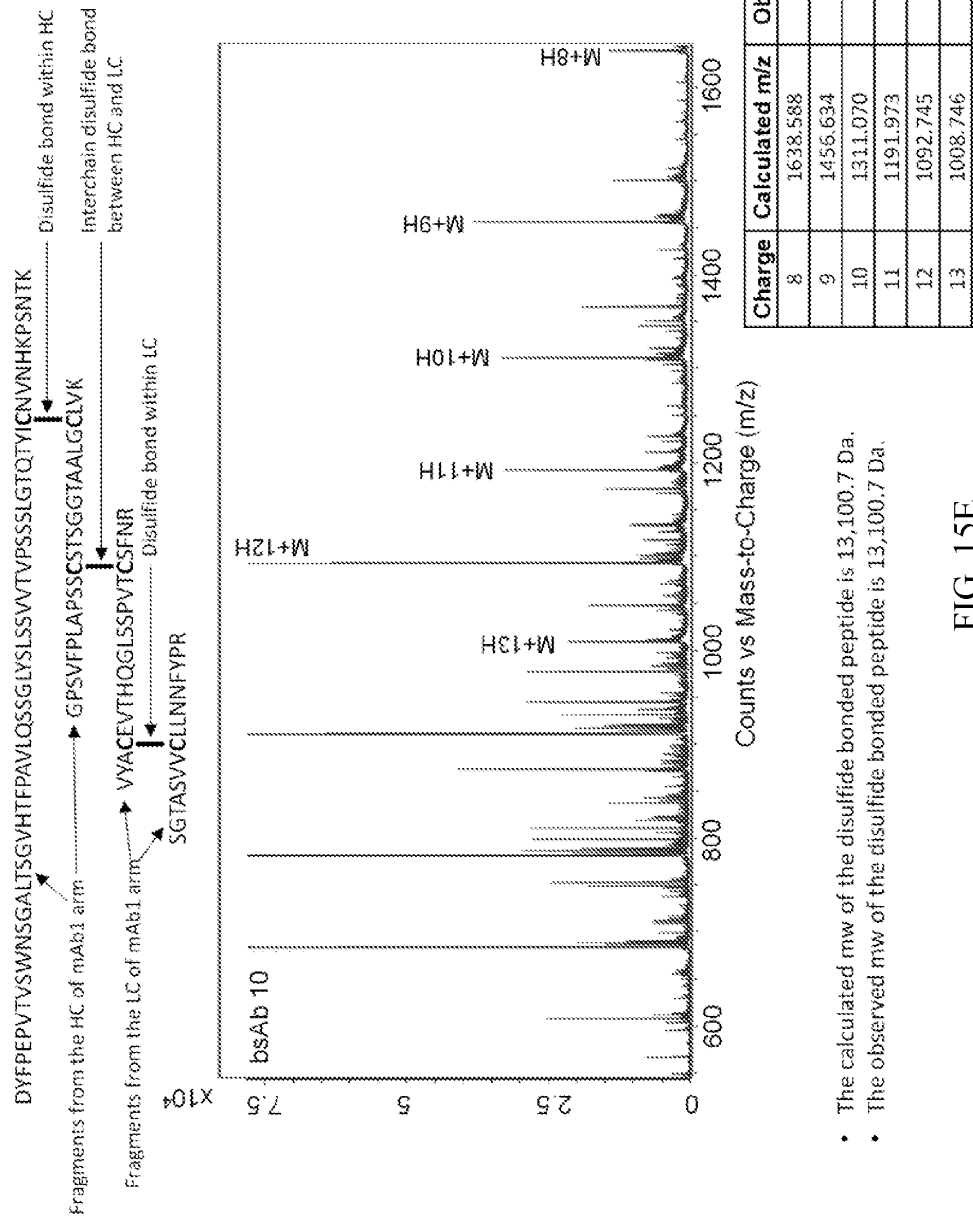


FIG. 15E

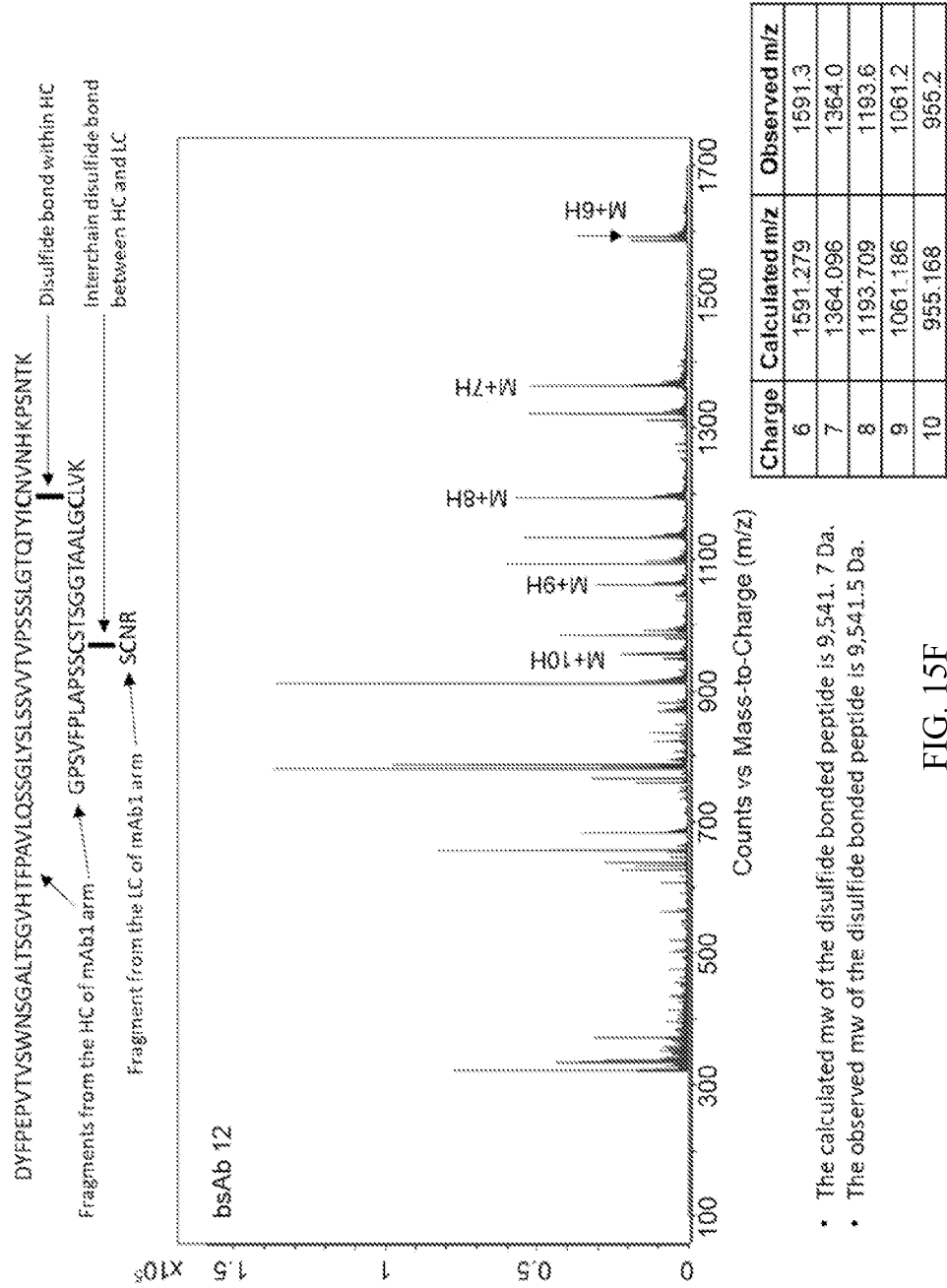


FIG. 15F

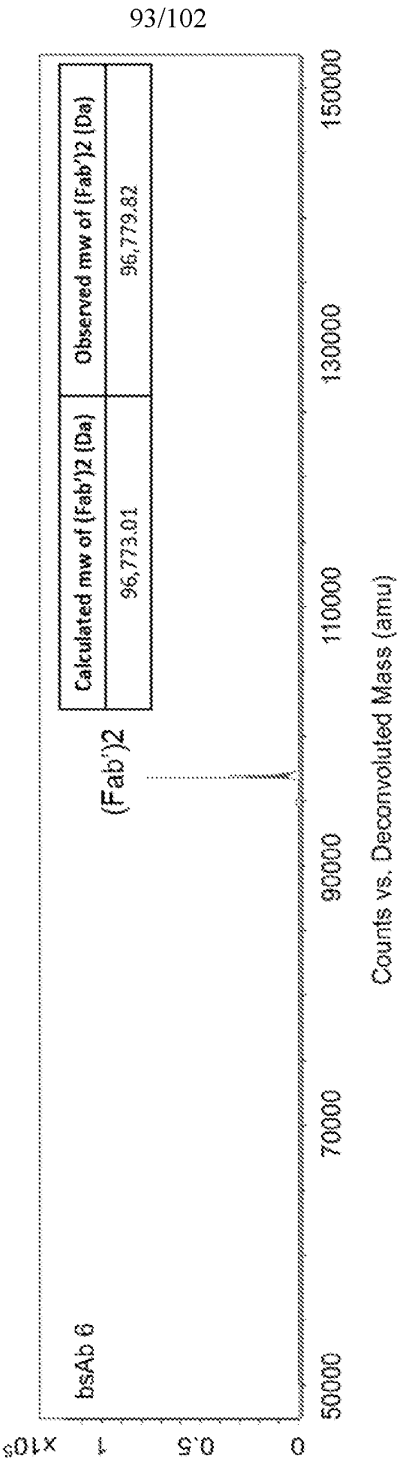


FIG. 16A

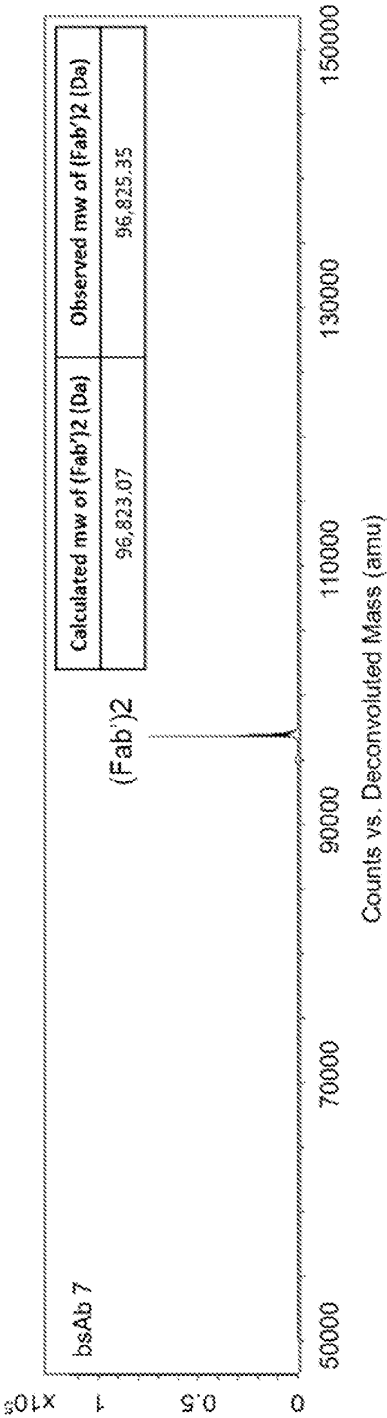


FIG. 16B

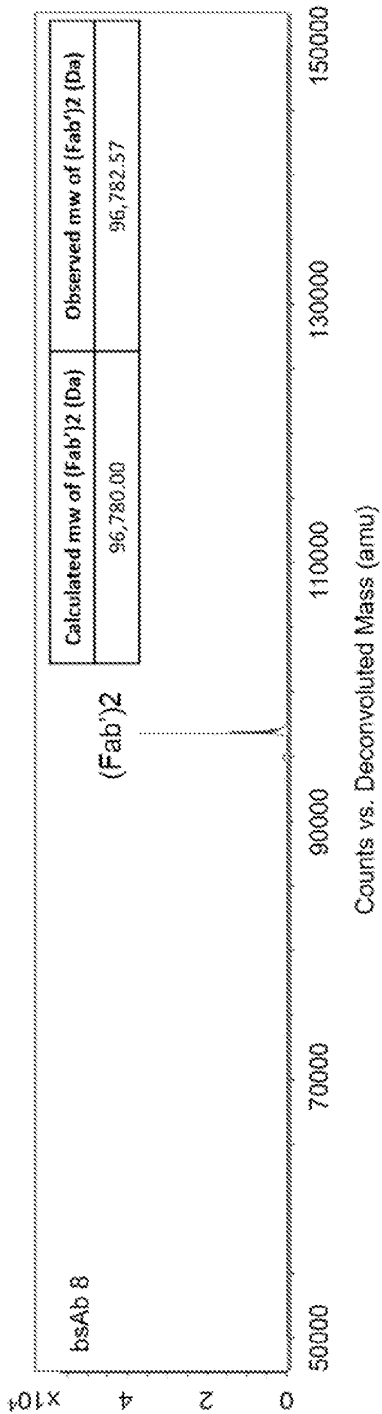


FIG. 16C

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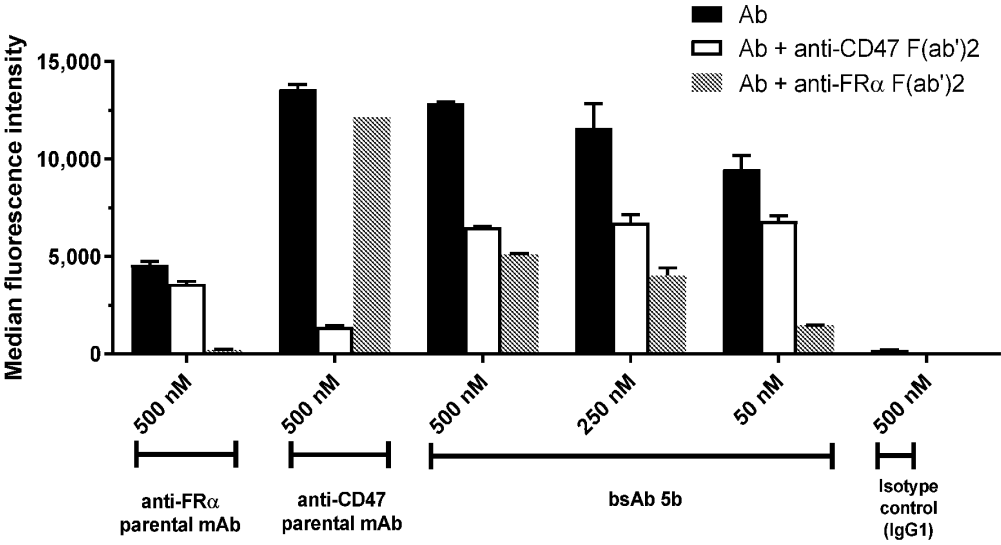


FIG. 17A

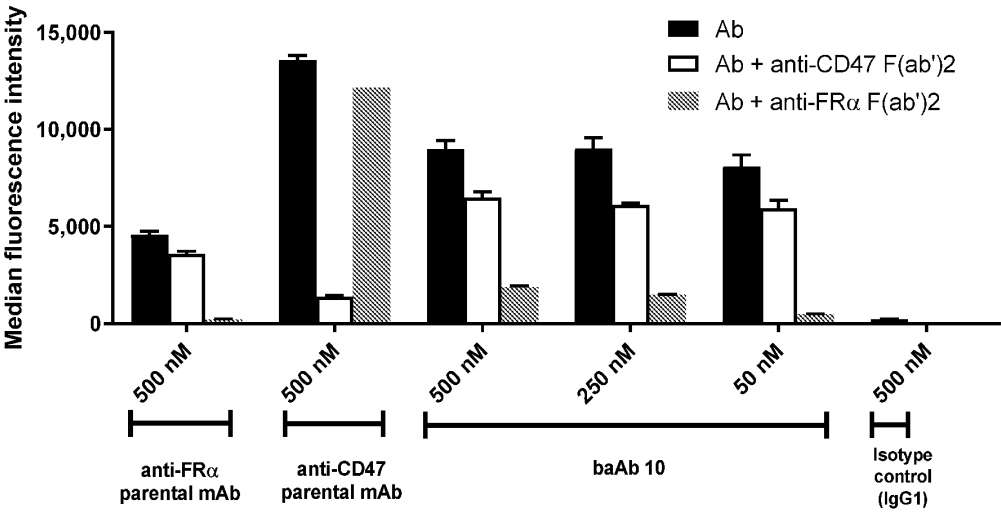


FIG. 17B

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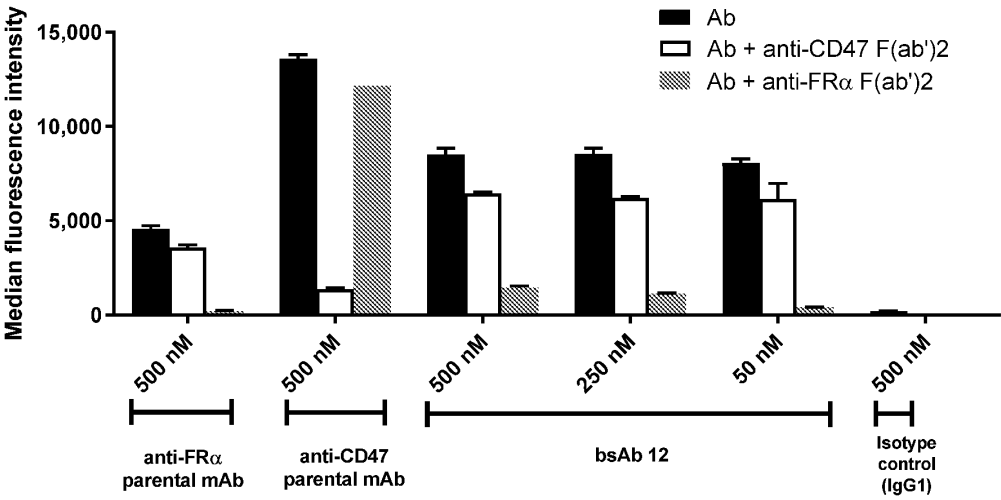


FIG. 17C

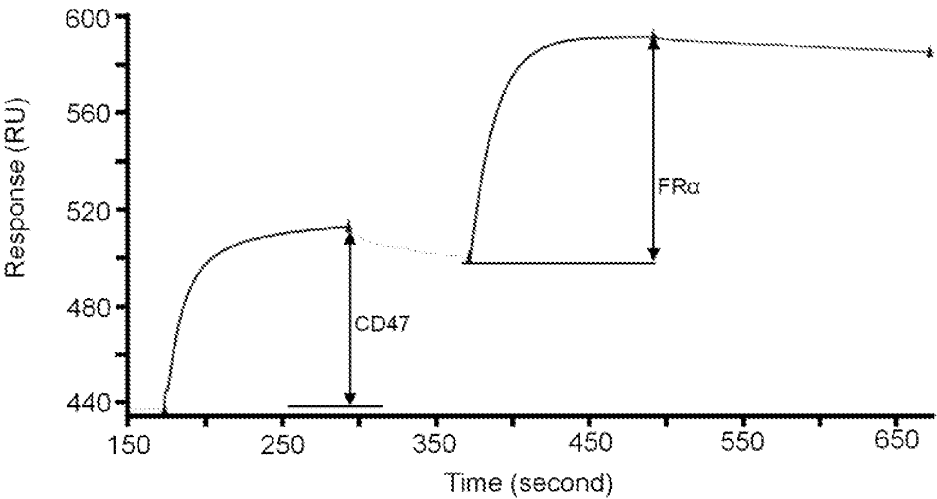


FIG. 18A

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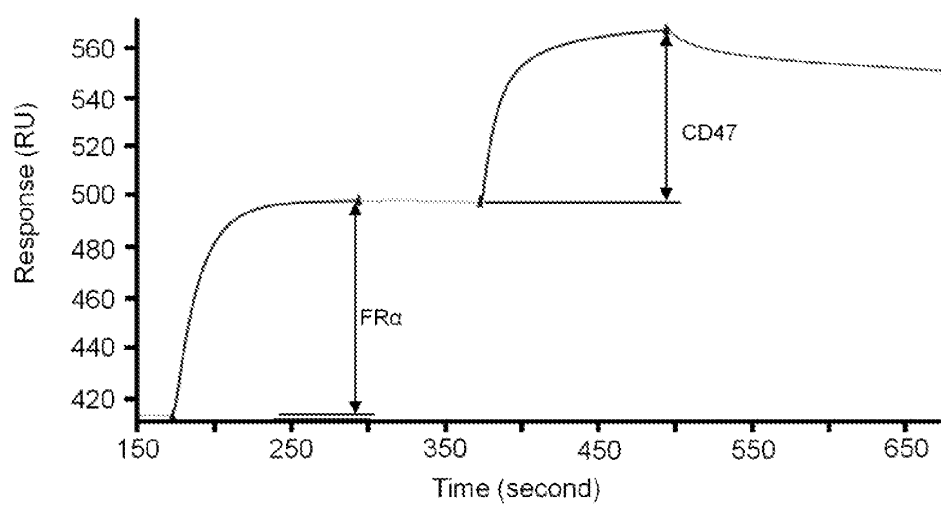


FIG. 18B

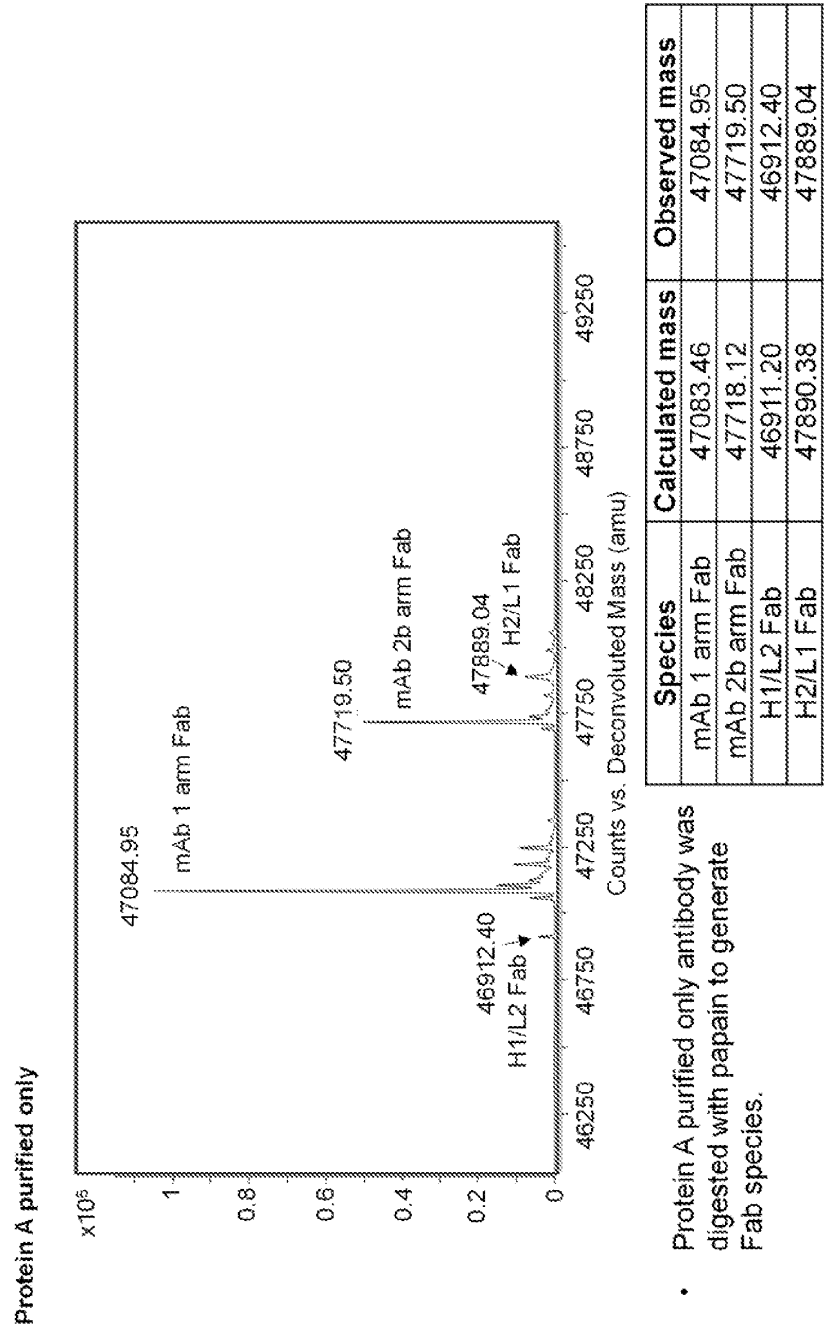
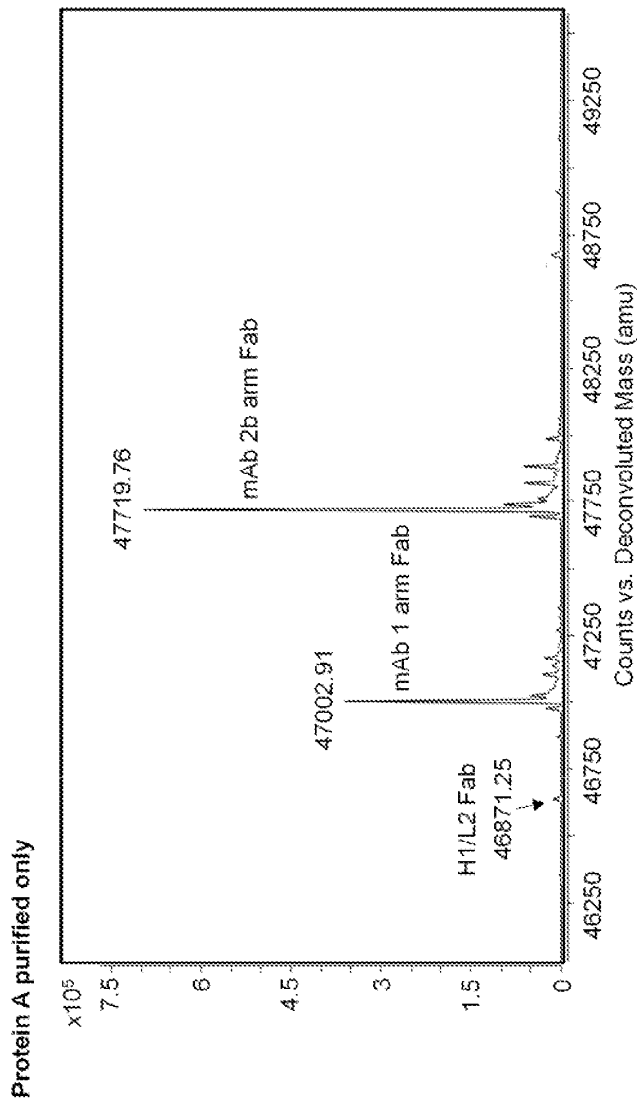


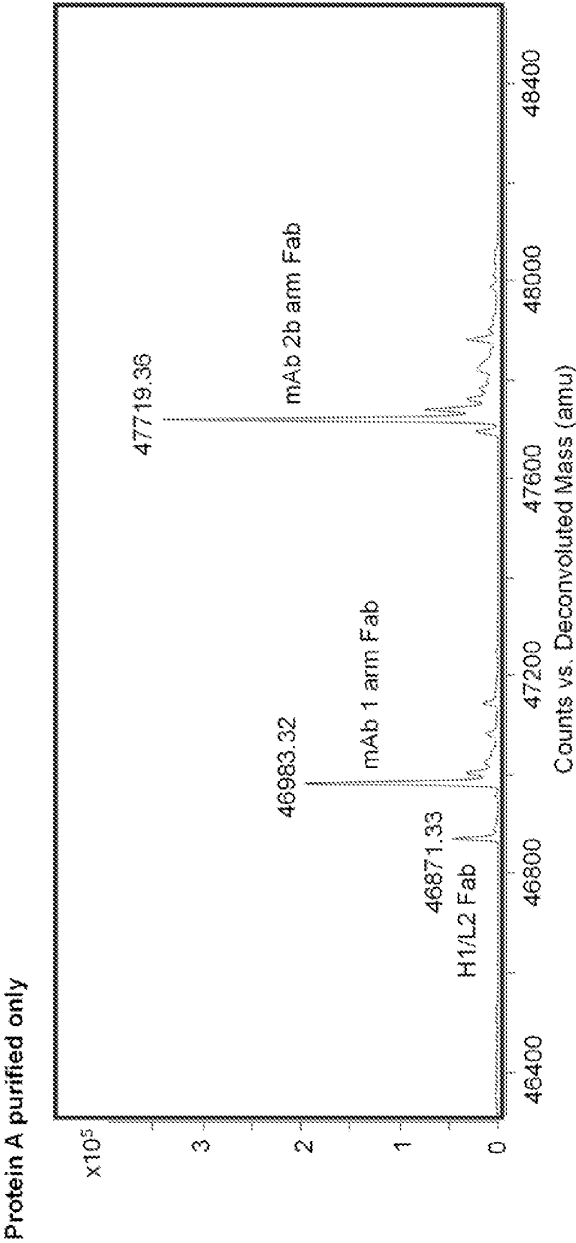
FIG. 19A



- Protein A purified only antibody was digested with papain to generate Fab species.

Species	Calculated mass	Observed mass
mAb 1 arm Fab	47001.27	47002.91
mAb 2b arm Fab	47718.12	47719.76
H1/L2 Fab	46870.11	46871.25
H2/L1 Fab	47849.28	ND

FIG. 19B



- Protein A purified only antibody was digested with papain to generate Fab species.

FIG. 19C

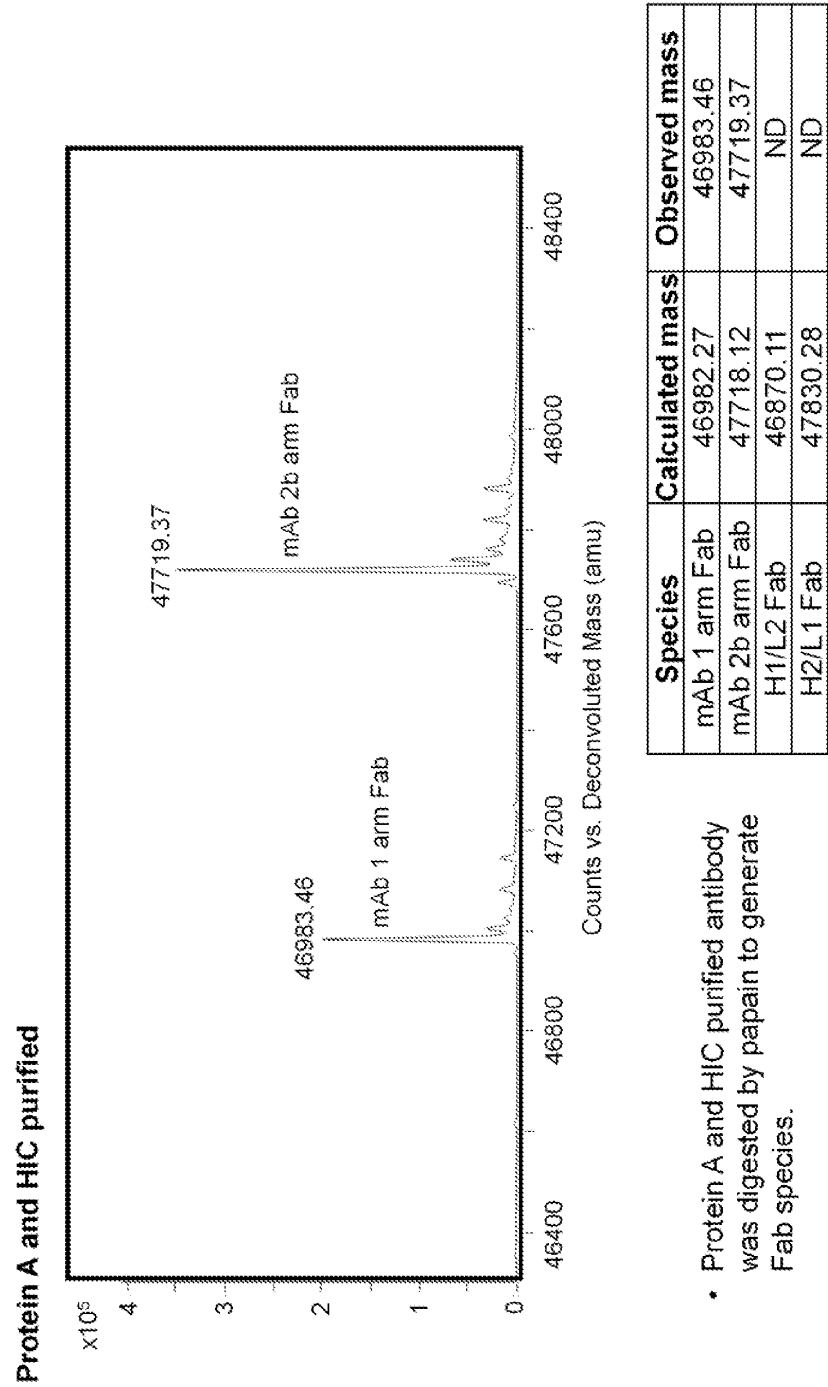


FIG. 20