

PREHOMOGENEOUS SPACES ASSOCIATED WITH NILPOTENT ORBITS IN $E_8(\mathbb{C})$

STEVEN GLENN JACKSON AND ALFRED G. NOËL

Nilpotent orbits in type E_8				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
A_1		1	56	$(0, 0, 0, 0, 0, 0, 1, -1)$
		2	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$2A_1$		1	64	$(-1, 1, 0, 0, 0, 0, 0, 0)$
		2	14	$(0, 0, 0, 0, 0, 0, 0, 1)$
$3A_1$		1	54	$(1, 0, 0, 0, 0, 0, -1, 1)$
		2	27	$(0, 0, 0, 0, 0, 1, -1, 0)$
		3	2	$(0, 0, 0, 0, 0, 0, 0, 1)$
A_2		2	56	$(0, 0, 0, 0, 0, 0, 1, -1)$
		4	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$4A_1$		1	56	$(0, -1, 0, 0, 0, 1, 0, 0)$
		2	28	$(0, -1, 1, 0, 0, 0, 0, 0)$
		3	8	$(0, 0, 0, 0, 0, 0, 0, 1)$
$A_2 + A_1$		1	44	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
		2	33	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		3	12	$(0, 0, 0, 0, 0, 0, 1, -1)$
		4	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$A_2 + 2A_1$		1	48	$(0, 1, 0, 0, 0, -1, 0, 1)$
		2	30	$(1, 0, 0, 0, 0, -1, 1, 0)$
		3	16	$(0, 0, 0, 0, 1, -1, 0, 0)$
		4	3	$(0, 0, 0, 0, 0, 0, 0, 1)$
A_3		1	32	$(-1, 0, 1, 0, 0, 0, 0, -1)$
<i>(continued on next page)</i>				

2000 *Mathematics Subject Classification.* 17B05;17B10;17B20;22E30.

Key words and phrases. Lie group, nilpotent orbit, prehomogeneous space.

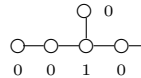
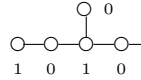
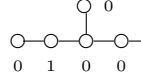
Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		2	13	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(1, 0, 0, 0, 0, 0, 0, -1)$
		3	32	$(-1, 1, 0, 0, 0, 0, 0, 0)$
		4	12	$(0, 0, 0, 0, 0, 0, 1, -1)$
		6	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$A_2 + 3A_1$		1	42	$(1, 0, -1, 0, 0, 0, 1, 0)$
		2	35	$(0, 0, -1, 0, 1, 0, 0, 0)$
		3	14	$(1, 1, -1, 0, 0, 0, 0, 0)$
		4	7	$(0, 0, 0, 0, 0, 0, 0, 1)$
$2A_2$		2	64	$(-1, 1, 0, 0, 0, 0, 0, 0)$
		4	14	$(0, 0, 0, 0, 0, 0, 0, 1)$
$2A_2 + A_1$		1	36	$(-1, 0, 0, 0, 0, 1, -1, 1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$
		2	33	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(-1, 0, 1, 0, 0, 0, -1, 1)$
		3	18	$(1, 0, 0, 0, 0, 0, -1, 1)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		4	10	$(0, 0, 0, 0, 0, 1, -1, 0)$
		5	2	$(0, 0, 0, 0, 0, 0, 0, 1)$
$A_3 + A_1$		1	34	$(0, 0, 0, 0, 0, -1, 1, 1)$ $(0, 1, 0, 0, 0, -1, 1, -1)$
		2	26	$(0, 1, 0, 0, 0, -1, 0, 1)$ $(1, 0, 0, 0, 0, 0, 0, -1)$
		3	20	$(1, 0, 0, 0, 0, -1, 1, 0)$
		4	16	$(0, 0, 0, 0, 1, -1, 0, 0)$
		5	2	$(0, 0, 0, 0, 0, 0, 1, -1)$
		6	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$D_4(a_1)$		2	54	$(1, 0, 0, 0, 0, 0, -1, 1)$
		4	27	$(0, 0, 0, 0, 0, 1, -1, 0)$
		6	2	$(0, 0, 0, 0, 0, 0, 0, 1)$
D_4		2	28	$(0, 0, 0, 0, 0, 0, -1, 2)$ $(1, 0, 0, 0, 0, 0, 0, -1)$
		4	27	$(1, 0, 0, 0, 0, 0, -1, 1)$
		6	27	$(0, 0, 0, 0, 0, 1, -1, 0)$
		8	1	$(0, 0, 0, 0, 0, 0, 1, -1)$
		10	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$2A_2 + 2A_1$		1	40	$(0, 0, 1, 0, -1, 0, 0, 1)$
		2	30	$(0, 1, 0, 0, -1, 0, 1, 0)$
		3	20	$(1, 0, 0, 0, -1, 1, 0, 0)$
		4	10	$(0, 0, 0, 1, -1, 0, 0, 0)$
(continued on next page)				

Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		5	4	$(0, 0, 0, 0, 0, 0, 0, 1)$
$A_3 + 2A_1$		1	36	$(0, 1, -1, 0, 0, 0, 0, 1)$ $(1, 0, -1, 0, 0, 1, 0, -1)$
		2	27	$(1, 0, -1, 0, 0, 0, 1, 0)$ $(0, 0, -1, 1, 0, 0, 0, -1)$
		3	22	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(0, 0, -1, 0, 1, 0, 0, 0)$
		4	12	$(1, 1, -1, 0, 0, 0, 0, 0)$
		5	6	$(0, 0, 0, 0, 0, 0, 1, -1)$
		6	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$D_4(a_1) + A_1$		1	32	$(1, -1, 0, 0, 0, 0, 0, 1)$ $(0, -1, 0, 1, 0, 0, -1, 0)$
		2	31	$(0, 1, 0, 0, 0, 0, -1, 0)$ $(0, -1, 0, 0, 1, 0, -1, 1)$
		3	18	$(0, -1, 0, 0, 0, 1, 0, 0)$ $(1, 0, 0, 0, 0, 0, -1, 1)$
		4	15	$(0, -1, 1, 0, 0, 0, 0, 0)$
		5	6	$(0, 0, 0, 0, 0, 1, -1, 0)$
		6	2	$(0, 0, 0, 0, 0, 0, 0, 1)$
$A_3 + A_2$		1	32	$(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$
		2	27	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, 0, -1, 0, 1)$
		3	24	$(-1, 0, 1, 0, 0, -1, 1, 0)$
		4	11	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		5	8	$(0, 0, 0, 0, 1, -1, 0, 0)$
		6	3	$(0, 0, 0, 0, 0, 0, 0, 1)$
A_4		2	44	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
		4	33	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		6	12	$(0, 0, 0, 0, 0, 0, 1, -1)$
		8	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$A_3 + A_2 + A_1$		1	30	$(1, 1, 0, -1, 0, 0, 0, 1)$
		2	30	$(0, 0, 1, -1, 0, 0, 1, 0)$
		3	20	$(0, 1, 0, -1, 0, 1, 0, 0)$
		4	15	$(1, 0, 0, -1, 1, 0, 0, 0)$
		5	6	$(0, 1, 1, -1, 0, 0, 0, 0)$
		6	5	$(0, 0, 0, 0, 0, 0, 0, 1)$
$D_4 + A_1$		1	26	$(1, -1, 0, 0, 0, 0, 1, -1)$ $(0, -1, 0, 1, 0, 0, -1, 0)$
		(continued on next page)		

Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		2	17	$(0, 0, 0, 0, 0, 0, -1, 2)$ $(0, 1, 0, 0, 0, 0, -1, 0)$ $(0, -1, 0, 0, 1, 0, 0, -1)$
		3	12	$(1, -1, 0, 0, 0, 0, 0, 1)$ $(1, 0, 0, 0, 0, 0, 0, -1)$
		4	15	$(0, -1, 0, 0, 1, 0, -1, 1)$
		5	12	$(0, -1, 0, 0, 0, 1, 0, 0)$ $(1, 0, 0, 0, 0, 0, -1, 1)$
		6	15	$(0, -1, 1, 0, 0, 0, 0, 0)$
		7	6	$(0, 0, 0, 0, 0, 1, -1, 0)$
		8	1	$(0, 0, 0, 0, 0, 0, 1, -1)$
		10	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$D_4(a_1) + A_2$		2	56	$(0, -1, 0, 0, 0, 1, 0, 0)$
		4	28	$(0, -1, 1, 0, 0, 0, 0, 0)$
		6	8	$(0, 0, 0, 0, 0, 0, 0, 1)$
$A_4 + A_1$		1	26	$(0, 0, 0, 0, 0, -1, 1, 1)$ $(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, -1, 1, -1)$
		2	25	$(-1, 0, 0, 0, 0, 1, 0, -1)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$ $(0, 1, 0, 0, 0, -1, 1, -1)$
		3	18	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, 0, -1, 0, 1)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
		4	17	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 0, 1, 0, 0, -1, 1, 0)$
		5	10	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		6	8	$(0, 0, 0, 0, 1, -1, 0, 0)$
		7	2	$(0, 0, 0, 0, 0, 0, 1, -1)$
		8	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$2A_3$		1	28	$(1, 1, 0, 0, -1, 0, 0, 0)$ $(-1, 0, 0, 1, -1, 0, 0, 1)$
		2	22	$(0, 0, 1, 0, -1, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 0, 1, 0)$
		3	24	$(0, 1, 0, 0, -1, 0, 1, 0)$
		4	16	$(-1, 0, 1, 0, -1, 1, 0, 0)$
		5	8	$(1, 0, 0, 0, -1, 1, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		6	6	$(0, 0, 0, 1, -1, 0, 0, 0)$
		7	4	$(0, 0, 0, 0, 0, 0, 0, 1)$
$D_5(a_1)$		1	24	$(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, -1, 1, -1)$
		2	19	$(0, 0, 0, 0, 0, -1, 1, 1)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$ $(0, 1, 0, 0, 0, -1, 1, -1)$
(continued on next page)				

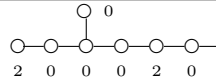
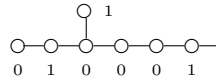
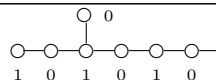
Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		3	16	$(-1, 0, 0, 0, 1, -1, 0, 1)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
		4	11	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, 0, -1, 0, 1)$ $(1, 0, 0, 0, 0, 0, 0, -1)$
		5	16	$(-1, 0, 1, 0, 0, -1, 1, 0)$
		6	10	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		7	8	$(0, 0, 0, 0, 1, -1, 0, 0)$
		8	2	$(0, 0, 0, 0, 0, 0, 1, -1)$
		10	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$A_4 + 2A_1$		1	28	$(0, 0, 0, -1, 1, 0, 0, 1)$ $(1, 1, 0, -1, 0, 0, 1, -1)$
		2	24	$(1, 1, 0, -1, 0, 0, 0, 1)$ $(0, 0, 1, -1, 0, 1, 0, -1)$
		3	20	$(0, 0, 1, -1, 0, 0, 1, 0)$ $(0, 1, 0, -1, 1, 0, 0, -1)$
		4	15	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(0, 1, 0, -1, 0, 1, 0, 0)$
		5	12	$(1, 0, 0, -1, 1, 0, 0, 0)$
		6	6	$(0, 1, 1, -1, 0, 0, 0, 0)$
		7	4	$(0, 0, 0, 0, 0, 0, 1, -1)$
		8	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$A_4 + A_2$		2	48	$(0, 1, 0, 0, 0, -1, 0, 1)$
		4	30	$(1, 0, 0, 0, 0, -1, 1, 0)$
		6	16	$(0, 0, 0, 0, 1, -1, 0, 0)$
		8	3	$(0, 0, 0, 0, 0, 0, 0, 1)$
A_5		1	18	$(0, 0, 0, 0, 0, -1, 1, 1)$ $(-1, 0, 0, 0, 1, -1, 1, -1)$
		2	17	$(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$
		3	18	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, 0, -1, 1, -1)$
		4	16	$(0, 1, 0, 0, 0, -1, 0, 1)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
		5	16	$(-1, 0, 1, 0, 0, -1, 1, 0)$
		6	9	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		7	2	$(1, 0, 0, 0, 0, -1, 1, 0)$
		8	8	$(0, 0, 0, 0, 1, -1, 0, 0)$
		9	2	$(0, 0, 0, 0, 0, 0, 1, -1)$
		10	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$D_5(a_1) + A_1$		1	24	$(1, 1, 0, -1, 0, 0, 1, -1)$
(continued on next page)				

Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		2	22	$(0, 0, 0, -1, 1, 0, 0, 1)$ $(0, 0, 1, -1, 0, 1, 0, -1)$
		3	14	$(1, 1, 0, -1, 0, 0, 0, 1)$ $(0, 1, 0, -1, 1, 0, 0, -1)$
		4	15	$(0, 0, 1, -1, 0, 0, 1, 0)$ $(1, 0, 0, 0, 0, 0, 0, -1)$
		5	12	$(0, 1, 0, -1, 0, 1, 0, 0)$
		6	12	$(1, 0, 0, -1, 1, 0, 0, 0)$
		7	6	$(0, 1, 1, -1, 0, 0, 0, 0)$
		8	4	$(0, 0, 0, 0, 0, 0, 1, -1)$
		10	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$A_4 + A_2 + A_1$		1	36	$(0, 1, -1, 0, 0, 0, 0, 1)$ $(1, 0, -1, 0, 0, 1, 0, -1)$
		2	27	$(1, 0, -1, 0, 0, 0, 1, 0)$ $(0, 0, -1, 1, 0, 0, 0, -1)$
		3	22	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(0, 0, -1, 0, 1, 0, 0, 0)$
		4	12	$(1, 1, -1, 0, 0, 0, 0, 0)$
		5	6	$(0, 0, 0, 0, 0, 0, 1, -1)$
		6	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$D_4 + A_2$		2	42	$(1, -1, 0, 0, 0, 0, 0, 1)$ $(0, -1, 0, 0, 1, 0, 0, -1)$
		4	28	$(0, -1, 0, 0, 0, 1, 0, 0)$ $(1, 0, 0, 0, 0, 0, 0, -1)$
		6	21	$(0, -1, 1, 0, 0, 0, 0, 0)$
		8	7	$(0, 0, 0, 0, 0, 0, 1, -1)$
		10	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$E_6(a_3)$		2	36	$(-1, 0, 0, 0, 0, 1, -1, 1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$
		4	33	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(-1, 0, 1, 0, 0, 0, -1, 1)$
		6	18	$(1, 0, 0, 0, 0, 0, -1, 1)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		8	10	$(0, 0, 0, 0, 0, 1, -1, 0)$
		10	2	$(0, 0, 0, 0, 0, 0, 0, 1)$
D_5		2	27	$(0, 0, 0, 0, 0, 0, -1, 2)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$
		4	26	$(-1, 0, 0, 0, 0, 1, -1, 1)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
		6	18	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 0, 1, 0, 0, 0, -1, 1)$
		8	17	$(1, 0, 0, 0, 0, 0, -1, 1)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		10	10	$(0, 0, 0, 0, 0, 1, -1, 0)$
		12	1	$(0, 0, 0, 0, 0, 0, 1, -1)$
(continued on next page)				

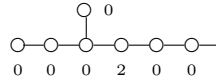
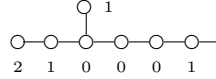
Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		14	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$A_4 + A_3$		1	24	$(0, 0, 0, -1, 1, 0, 0, 1)$ $(1, 1, 0, -1, 0, 1, -1, 0)$
		2	21	$(1, 1, 0, -1, 0, 0, 0, 1)$ $(0, 0, 1, -1, 1, 0, -1, 0)$
		3	20	$(0, 1, 0, 0, 0, 0, -1, 0)$ $(0, 0, 1, -1, 0, 1, -1, 1)$
		4	15	$(0, 0, 1, -1, 0, 0, 1, 0)$ $(0, 1, 0, -1, 1, 0, -1, 1)$
		5	12	$(0, 1, 0, -1, 0, 1, 0, 0)$ $(1, 0, 0, 0, 0, 0, 0, -1, 1)$
		6	9	$(1, 0, 0, -1, 1, 0, 0, 0)$
		7	6	$(0, 1, 1, -1, 0, 0, 0, 0)$
		8	3	$(0, 0, 0, 0, 0, 0, 1, -1, 0)$
		9	2	$(0, 0, 0, 0, 0, 0, 0, 0, 1)$
$A_5 + A_1$		1	22	$(1, 0, 1, -1, 0, 0, 0, 0)$ $(0, 0, 0, -1, 1, 0, 0, 1)$ $(-1, 1, 1, -1, 0, 0, 1, -1)$
		2	18	$(1, 1, 0, -1, 0, 0, 1, -1)$ $(-1, 1, 1, -1, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$
		3	18	$(1, 1, 0, -1, 0, 0, 0, 1)$ $(0, 0, 1, -1, 0, 1, 0, -1)$ $(-1, 0, 0, 0, 0, 0, 1, 0)$
		4	16	$(0, 0, 1, -1, 0, 0, 1, 0)$ $(0, 1, 0, -1, 1, 0, 0, -1)$
		5	14	$(-1, 0, 1, 0, 0, 0, 0, -1)$ $(0, 1, 0, -1, 0, 1, 0, 0)$
		6	9	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 0, 1, -1, 1, 0, 0, 0)$
		7	6	$(1, 0, 0, -1, 1, 0, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		8	4	$(0, 1, 1, -1, 0, 0, 0, 0)$
		9	4	$(0, 0, 0, 0, 0, 0, 1, -1)$
		10	1	$(0, 0, 0, 0, 0, 0, 0, 0, 1)$
$D_5(a_1) + A_2$		1	22	$(0, 0, 0, 0, 0, -1, 1, 1)$ $(0, 1, -1, 0, 0, 0, 1, -1)$ $(1, 0, -1, 1, 0, -1, 0, 0)$
		2	21	$(0, 1, -1, 0, 0, 0, 0, 1)$ $(0, 0, 1, 0, 0, -1, 0, 0)$ $(1, 0, -1, 0, 1, -1, 1, -1)$
		3	18	$(1, 0, -1, 0, 0, 1, 0, -1)$ $(1, 0, -1, 0, 1, -1, 0, 1)$ $(0, 1, 0, 0, 0, -1, 1, -1)$
		4	14	$(1, 0, -1, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, 0, -1, 0, 1)$ $(0, 0, -1, 1, 0, 0, 0, -1)$
		5	14	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(0, 0, -1, 1, 0, -1, 1, 0)$
(continued on next page)				

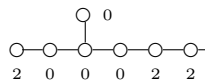
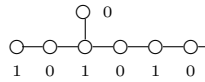
Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		6	8	$(1, 0, 0, 0, 0, -1, 1, 0)$
		7	8	$(0, 0, -1, 0, 1, 0, 0, 0)$
		8	4	$(1, 1, -1, 0, 0, 0, 0, 0)$
		9	2	$(0, 0, 0, 0, 1, -1, 0, 0)$
		10	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$D_6(a_2)$		1	20	$(0, 1, -1, 0, 0, 1, -1, 0)$ $(1, -1, 0, 0, 0, 1, -1, 0)$ $(0, -1, -1, 1, 0, 0, 0, 1)$
		2	18	$(0, 1, -1, 0, 0, 0, 0, 1)$ $(1, -1, 0, 0, 0, 0, 0, 1)$ $(1, 0, -1, 0, 1, 0, -1, 0)$
		3	20	$(0, -1, 0, 1, 0, 0, -1, 0)$ $(1, 0, -1, 0, 0, 1, -1, 1)$
		4	15	$(0, 1, 0, 0, 0, 0, -1, 0)$ $(1, 0, -1, 0, 0, 0, 1, 0)$ $(0, -1, 0, 0, 1, 0, -1, 1)$
		5	12	$(0, 0, -1, 1, 0, 0, -1, 1)$ $(0, -1, 0, 0, 0, 1, 0, 0)$
		6	10	$(1, 0, 0, 0, 0, 0, -1, 1)$ $(0, 0, -1, 0, 1, 0, 0, 0)$
		7	8	$(1, -1, -1, 1, 0, 0, 0, 0)$
		8	3	$(1, 1, -1, 0, 0, 0, 0, 0)$ $(0, -1, 1, 0, 0, 0, 0, 0)$
		9	4	$(0, 0, 0, 0, 0, 1, -1, 0)$
		10	2	$(0, 0, 0, 0, 0, 0, 0, 1)$
$E_6(a_3) + A_1$		1	20	$(0, 0, 0, 0, -1, 1, 0, 1)$ $(1, 1, 0, 0, -1, 0, 0, 0)$ $(-1, 0, 0, 1, -1, 1, -1, 0)$
		2	21	$(-1, 0, 0, 0, 1, 0, -1, 0)$ $(0, 0, 1, 0, -1, 1, -1, 0)$ $(-1, 0, 0, 1, -1, 0, 0, 1)$
		3	16	$(0, 0, 1, 0, -1, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 1, -1, 1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$
		4	17	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, -1, 1, -1, 1)$
		5	12	$(0, 1, 0, 0, -1, 0, 1, 0)$ $(-1, 0, 1, 0, 0, 0, -1, 1)$
		6	10	$(1, 0, 0, 0, 0, 0, -1, 1)$ $(-1, 0, 1, 0, -1, 1, 0, 0)$
		7	6	$(1, 0, 0, 0, -1, 1, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		8	6	$(0, 0, 0, 1, -1, 0, 0, 0)$
		9	2	$(0, 0, 0, 0, 0, 1, -1, 0)$
		10	2	$(0, 0, 0, 0, 0, 0, 0, 1)$
$E_7(a_5)$		1	18	$(0, 0, 0, -1, 1, 0, 0, 1)$ $(1, 1, 0, -1, 1, -1, 0, 0)$
(continued on next page)				

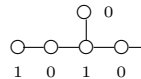
Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		2	21	$(0, 0, 1, 0, 0, -1, 0, 0)$ $(1, 1, 0, -1, 0, 0, 0, 1)$
		3	18	$(0, 0, 1, -1, 1, -1, 0, 1)$
		4	15	$(0, 1, 0, 0, 0, -1, 0, 1)$ $(0, 0, 1, -1, 0, 0, 1, 0)$
		5	12	$(0, 1, 0, -1, 1, -1, 1, 0)$
		6	11	$(0, 1, 0, -1, 0, 1, 0, 0)$ $(1, 0, 0, 0, 0, -1, 1, 0)$
		7	6	$(1, 0, 0, -1, 1, 0, 0, 0)$
		8	6	$(0, 1, 1, -1, 0, 0, 0, 0)$
		9	2	$(0, 0, 0, 0, 1, -1, 0, 0)$
		10	3	$(0, 0, 0, 0, 0, 0, 0, 1)$
		$D_5 + A_1$		1
2	16			$(0, 0, 0, 0, 0, 0, -1, 2)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$ $(-1, 0, 0, 1, -1, 0, 1, -1)$ $(0, 0, 1, 0, -1, 1, -1, 0)$
3	12			$(0, 0, 0, 0, -1, 1, 0, 1)$ $(0, 0, 1, 0, -1, 0, 1, -1)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$
4	14			$(-1, 0, 0, 1, -1, 0, 0, 1)$ $(0, 1, 0, 0, -1, 1, 0, -1)$
5	10			$(0, 0, 1, 0, -1, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 1, -1, 1)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
6	10			$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, -1, 1, -1, 1)$ $(1, 0, 0, 0, 0, 0, 0, -1)$
7	8			$(0, 1, 0, 0, -1, 0, 1, 0)$ $(-1, 0, 1, 0, 0, 0, -1, 1)$
8	9			$(1, 0, 0, 0, 0, 0, -1, 1)$ $(-1, 0, 1, 0, -1, 1, 0, 0)$
9	6			$(1, 0, 0, 0, -1, 1, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
10	6			$(0, 0, 0, 1, -1, 0, 0, 0)$
11	2			$(0, 0, 0, 0, 0, 1, -1, 0)$
12	1			$(0, 0, 0, 0, 0, 0, 1, -1)$
14	1			$(0, 0, 0, 0, 0, 0, 0, 1)$
$E_8(a_7)$				2
		4	30	$(0, 1, 0, 0, -1, 0, 1, 0)$
		6	20	$(1, 0, 0, 0, -1, 1, 0, 0)$
		8	10	$(0, 0, 0, 1, -1, 0, 0, 0)$
		10	4	$(0, 0, 0, 0, 0, 0, 0, 1)$
(continued on next page)				

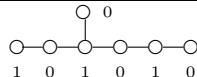
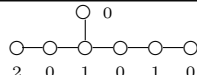
Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
A_6		2	32	$(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$
		4	27	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, 0, -1, 0, 1)$
		6	24	$(-1, 0, 1, 0, 0, -1, 1, 0)$
		8	11	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		10	8	$(0, 0, 0, 0, 1, -1, 0, 0)$
		12	3	$(0, 0, 0, 0, 0, 0, 0, 1)$
$D_6(a_1)$		1	16	$(0, 1, -1, 0, 0, 1, -1, 0)$ $(0, -1, -1, 1, 0, 0, 1, -1)$ $(1, -1, 0, 0, 0, 1, -1, 0)$
		2	16	$(0, 0, 0, 0, 0, 0, -1, 2)$ $(0, 1, -1, 0, 0, 0, 1, -1)$ $(1, -1, 0, 0, 0, 0, 1, -1)$ $(1, 0, -1, 0, 1, 0, -1, 0)$
		3	16	$(0, -1, -1, 1, 0, 0, 0, 1)$ $(0, -1, 0, 1, 0, 0, -1, 0)$ $(1, 0, -1, 0, 0, 1, 0, -1)$
		4	10	$(0, 1, -1, 0, 0, 0, 0, 1)$ $(1, -1, 0, 0, 0, 0, 0, 1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$ $(0, -1, 0, 0, 1, 0, 0, -1)$
		5	12	$(1, 0, -1, 0, 0, 1, -1, 1)$ $(0, 0, -1, 1, 0, 0, 0, -1)$
		6	10	$(1, 0, -1, 0, 0, 0, 1, 0)$ $(0, -1, 0, 0, 1, 0, -1, 1)$ $(1, 0, 0, 0, 0, 0, 0, -1)$
		7	8	$(0, 0, -1, 1, 0, 0, -1, 1)$ $(0, -1, 0, 0, 0, 1, 0, 0)$
		8	8	$(1, 0, 0, 0, 0, 0, -1, 1)$ $(0, 0, -1, 0, 1, 0, 0, 0)$
		9	8	$(1, -1, -1, 1, 0, 0, 0, 0)$
		10	3	$(1, 1, -1, 0, 0, 0, 0, 0)$ $(0, -1, 1, 0, 0, 0, 0, 0)$
		11	4	$(0, 0, 0, 0, 0, 1, -1, 0)$
		12	1	$(0, 0, 0, 0, 0, 0, 1, -1)$
		14	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
		$A_6 + A_1$		1
2	17			$(1, 1, 0, -1, 1, -1, 0, 0)$ $(-1, 0, 0, 1, 0, -1, 0, 0)$ $(-1, 1, 1, -1, 0, 0, 0, 1)$
3	14			$(0, 0, 1, 0, 0, -1, 0, 0)$ $(1, 1, 0, -1, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$
4	15			$(0, 0, 1, -1, 1, -1, 0, 1)$ $(-1, 0, 0, 0, 0, 0, 1, 0)$
(continued on next page)				

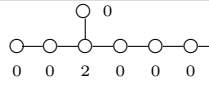
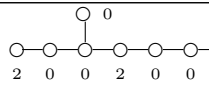
Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		5	12	$(0, 1, 0, 0, 0, -1, 0, 1)$ $(0, 0, 1, -1, 0, 0, 1, 0)$
		6	12	$(0, 1, 0, -1, 1, -1, 1, 0)$
		7	8	$(0, 1, 0, -1, 0, 1, 0, 0)$ $(-1, 0, 1, 0, 0, -1, 1, 0)$
		8	7	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 0, 1, -1, 1, 0, 0, 0)$
		9	4	$(1, 0, 0, -1, 1, 0, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		10	4	$(0, 1, 1, -1, 0, 0, 0, 0)$
		11	2	$(0, 0, 0, 0, 1, -1, 0, 0)$
		12	3	$(0, 0, 0, 0, 0, 0, 0, 1)$
$E_7(a_4)$		1	16	$(0, 0, 0, -1, 1, 0, 1, -1)$ $(1, 1, 0, -1, 1, -1, 0, 0)$
		2	17	$(0, 0, 0, 0, 0, -1, 1, 1)$ $(0, 0, 1, 0, 0, -1, 0, 0)$ $(1, 1, 0, -1, 0, 0, 1, -1)$
		3	14	$(0, 0, 0, -1, 1, 0, 0, 1)$ $(0, 0, 1, -1, 1, -1, 1, -1)$
		4	13	$(1, 1, 0, -1, 0, 0, 0, 1)$ $(0, 0, 1, -1, 0, 1, 0, -1)$ $(0, 1, 0, 0, 0, -1, 1, -1)$
		5	10	$(0, 0, 1, -1, 1, -1, 0, 1)$ $(0, 1, 0, -1, 1, 0, 0, -1)$
		6	11	$(0, 1, 0, 0, 0, -1, 0, 1)$ $(0, 0, 1, -1, 0, 0, 1, 0)$ $(1, 0, 0, 0, 0, 0, 0, -1)$
		7	8	$(0, 1, 0, -1, 1, -1, 1, 0)$
		8	8	$(0, 1, 0, -1, 0, 1, 0, 0)$ $(1, 0, 0, 0, 0, -1, 1, 0)$
		9	6	$(1, 0, 0, -1, 1, 0, 0, 0)$
		10	6	$(0, 1, 1, -1, 0, 0, 0, 0)$
		11	2	$(0, 0, 0, 0, 1, -1, 0, 0)$
		12	2	$(0, 0, 0, 0, 0, 0, 1, -1)$
		14	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
		$E_6(a_1)$		2
4	25			$(-1, 0, 0, 0, 0, 1, 0, -1)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$ $(0, 1, 0, 0, 0, -1, 1, -1)$
6	18			$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, 0, -1, 0, 1)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
8	17			$(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 0, 1, 0, 0, -1, 1, 0)$
10	10			$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
12	8			$(0, 0, 0, 0, 1, -1, 0, 0)$
(continued on next page)				

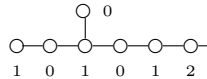
Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		14	2	$(0, 0, 0, 0, 0, 0, 1, -1)$
		16	1	$(0, 0, 0, 0, 0, 0, 0, 0, 1)$
$D_5 + A_2$		2	33	$(0, 0, 0, 0, -1, 1, 0, 1)$ $(0, 0, 1, 0, -1, 0, 1, -1)$
		4	25	$(0, 0, 1, 0, -1, 0, 0, 1)$ $(0, 1, 0, 0, -1, 1, 0, -1)$
		6	20	$(0, 1, 0, 0, -1, 0, 1, 0)$ $(1, 0, 0, 0, 0, 0, 0, -1)$
		8	15	$(1, 0, 0, 0, -1, 1, 0, 0)$
		10	10	$(0, 0, 0, 1, -1, 0, 0, 0)$
		12	3	$(0, 0, 0, 0, 0, 0, 1, -1)$
		14	1	$(0, 0, 0, 0, 0, 0, 0, 0, 1)$
D_6		1	12	$(0, 1, -1, 0, 0, 1, -1, 0)$ $(-1, -1, 1, 0, 0, 1, -1, 0)$ $(0, -1, -1, 1, 0, 0, 1, -1)$
		2	10	$(2, 0, -1, 0, 0, 0, 0, 0)$ $(0, 0, 0, 0, 0, 0, -1, 2)$ $(0, 1, -1, 0, 0, 0, 1, -1)$ $(-1, -1, 1, 0, 0, 0, 1, -1)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$
		3	12	$(1, -1, 0, 0, 0, 1, -1, 0)$ $(0, -1, -1, 1, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$
		4	9	$(1, -1, 0, 0, 0, 0, 1, -1)$ $(0, 1, -1, 0, 0, 0, 0, 1)$ $(-1, -1, 1, 0, 0, 0, 0, 1)$ $(1, 0, -1, 0, 1, 0, -1, 0)$
		5	12	$(0, -1, 0, 1, 0, 0, -1, 0)$ $(1, 0, -1, 0, 0, 1, 0, -1)$ $(-1, 0, 0, 0, 0, 1, -1, 1)$
		6	9	$(1, -1, 0, 0, 0, 0, 0, 1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$ $(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, -1, 0, 0, 1, 0, 0, -1)$
		7	8	$(1, 0, -1, 0, 0, 1, -1, 1)$ $(0, 0, -1, 1, 0, 0, 0, -1)$
		8	8	$(1, 0, -1, 0, 0, 0, 1, 0)$ $(0, -1, 0, 0, 1, 0, -1, 1)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
		9	8	$(0, 0, -1, 1, 0, 0, -1, 1)$ $(0, -1, 0, 0, 0, 1, 0, 0)$
		10	8	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 0, 1, 0, 0, 0, -1, 1)$ $(0, 0, -1, 0, 1, 0, 0, 0)$
		11	4	$(-1, -1, 0, 1, 0, 0, 0, 0)$
		12	2	$(1, 0, 0, 0, 0, 0, -1, 1)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		13	4	$(1, -1, -1, 1, 0, 0, 0, 0)$
		(continued on next page)		

Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		14	2	$(1, 1, -1, 0, 0, 0, 0, 0)$ $(0, -1, 1, 0, 0, 0, 0, 0)$
		15	4	$(0, 0, 0, 0, 0, 0, 1, -1, 0)$
		16	1	$(0, 0, 0, 0, 0, 0, 0, 1, -1)$
		18	1	$(0, 0, 0, 0, 0, 0, 0, 0, 1)$
E_6		2	18	$(0, 0, 0, 0, 0, -1, 2, -1)$ $(0, 0, 0, 0, 0, 0, -1, 2)$ $(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$
		4	17	$(0, 0, 0, 0, 0, -1, 1, 1)$ $(-1, 0, 0, 0, 1, -1, 1, -1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$
		6	17	$(-1, 0, 0, 0, 0, 1, 0, -1)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$ $(0, 1, 0, 0, 0, -1, 1, -1)$
		8	17	$(-1, 0, 0, 0, 0, 1, -1, 1)$ $(0, 1, 0, 0, 0, -1, 0, 1)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
		10	10	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 0, 1, 0, 0, 0, -1, 1)$
		12	9	$(1, 0, 0, 0, 0, 0, -1, 1)$ $(-1, 0, 1, 0, 0, -1, 1, 0)$
		14	9	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		16	8	$(0, 0, 0, 0, 1, -1, 0, 0)$
		18	1	$(0, 0, 0, 0, 0, 1, -1, 0)$
		20	1	$(0, 0, 0, 0, 0, 0, 1, -1)$
		22	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
		$D_7(a_2)$		1
2	15			$(0, 0, 0, -1, 1, 0, 0, 1)$ $(1, 1, 0, -1, 1, -1, 0, 0)$ $(-1, 0, 0, 1, 0, -1, 0, 0)$ $(-1, 1, 1, -1, 0, 0, 1, -1)$
3	14			$(0, 0, 1, 0, 0, -1, 0, 0)$ $(1, 1, 0, -1, 0, 0, 1, -1)$ $(-1, 1, 1, -1, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 1, -1, 1, -1)$
4	13			$(1, 1, 0, -1, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$ $(0, 0, 1, -1, 1, -1, 1, -1)$
5	12			$(0, 0, 1, -1, 0, 1, 0, -1)$ $(0, 0, 1, -1, 1, -1, 0, 1)$ $(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, 0, -1, 1, -1)$
(continued on next page)				

Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		6	10	$(0, 1, 0, 0, 0, -1, 0, 1)$ $(0, 0, 1, -1, 0, 0, 1, 0)$ $(0, 1, 0, -1, 1, 0, 0, -1)$
		7	10	$(-1, 0, 1, 0, 0, 0, 0, -1)$ $(0, 1, 0, -1, 1, -1, 1, 0)$
		8	7	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(0, 1, 0, -1, 0, 1, 0, 0)$ $(-1, 0, 1, 0, 0, -1, 1, 0)$
		9	6	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 0, 1, -1, 1, 0, 0, 0)$
		10	4	$(1, 0, 0, -1, 1, 0, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		11	4	$(0, 1, 1, -1, 0, 0, 0, 0)$
		12	2	$(0, 0, 0, 0, 1, -1, 0, 0)$
		13	2	$(0, 0, 0, 0, 0, 0, 1, -1)$
		14	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
A_7		1	14	$(1, 0, 1, -1, 0, 0, 0, 0)$ $(0, 0, 0, -1, 1, 1, -1, 0)$ $(0, 0, 0, 0, 0, -1, 1, 1)$ $(-1, 1, 1, -1, 1, -1, 0, 0)$
		2	13	$(0, 0, 0, -1, 1, 0, 0, 1)$ $(1, 1, 0, -1, 1, -1, 0, 0)$ $(-1, 0, 0, 1, 0, -1, 0, 0)$ $(-1, 1, 1, -1, 0, 1, -1, 0)$
		3	14	$(1, 1, 0, -1, 0, 1, -1, 0)$ $(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$ $(-1, 1, 1, -1, 0, 0, 0, 1)$
		4	12	$(1, 1, 0, -1, 0, 0, 0, 1)$ $(0, 0, 1, -1, 1, 0, -1, 0)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$
		5	12	$(-1, 0, 0, 0, 0, 1, -1, 1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$ $(0, 0, 1, -1, 1, -1, 0, 1)$
		6	9	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 0, 1, -1, 0, 1, -1, 1)$ $(0, 1, 0, 0, 0, -1, 0, 1)$
		7	10	$(0, 0, 1, -1, 0, 0, 1, 0)$ $(0, 1, 0, -1, 1, 0, -1, 1)$
		8	8	$(0, 1, 0, -1, 1, -1, 1, 0)$ $(-1, 0, 1, 0, 0, 0, -1, 1)$
		9	6	$(0, 1, 0, -1, 0, 1, 0, 0)$ $(1, 0, 0, 0, 0, 0, -1, 1)$ $(-1, 0, 1, 0, 0, -1, 1, 0)$
		10	5	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 0, 1, -1, 1, 0, 0, 0)$
		11	4	$(1, 0, 0, -1, 1, 0, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		12	4	$(0, 1, 1, -1, 0, 0, 0, 0)$
		13	2	$(0, 0, 0, 0, 1, -1, 0, 0)$
(continued on next page)				

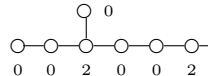
Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		14	1	$(0, 0, 0, 0, 0, 1, -1, 0)$
		15	2	$(0, 0, 0, 0, 0, 0, 0, 1)$
$E_6(a_1) + A_1$		1	14	$(1, 0, 1, -1, 0, 0, 0, 0)$ $(0, 0, 0, -1, 1, 0, 1, -1)$ $(-1, 1, 1, -1, 1, -1, 0, 0)$
		2	15	$(0, 0, 0, 0, 0, -1, 1, 1)$ $(1, 1, 0, -1, 1, -1, 0, 0)$ $(-1, 0, 0, 1, 0, -1, 0, 0)$ $(-1, 1, 1, -1, 0, 0, 1, -1)$
		3	12	$(0, 0, 0, -1, 1, 0, 0, 1)$ $(0, 0, 1, 0, 0, -1, 0, 0)$ $(1, 1, 0, -1, 0, 0, 1, -1)$ $(-1, 0, 0, 0, 1, -1, 1, -1)$
		4	13	$(-1, 1, 1, -1, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$ $(0, 0, 1, -1, 1, -1, 1, -1)$
		5	10	$(1, 1, 0, -1, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$ $(0, 0, 1, -1, 0, 1, 0, -1)$ $(0, 1, 0, 0, 0, -1, 1, -1)$
		6	10	$(0, 0, 1, -1, 1, -1, 0, 1)$ $(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, -1, 1, 0, 0, -1)$
		7	8	$(0, 1, 0, 0, 0, -1, 0, 1)$ $(0, 0, 1, -1, 0, 0, 1, 0)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
		8	9	$(0, 1, 0, -1, 1, -1, 1, 0)$ $(1, 0, 0, 0, 0, 0, 0, -1)$
		9	6	$(0, 1, 0, -1, 0, 1, 0, 0)$ $(-1, 0, 1, 0, 0, -1, 1, 0)$
		10	6	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 0, 1, -1, 1, 0, 0, 0)$
		11	4	$(1, 0, 0, -1, 1, 0, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		12	4	$(0, 1, 1, -1, 0, 0, 0, 0)$
		13	2	$(0, 0, 0, 0, 1, -1, 0, 0)$
		14	2	$(0, 0, 0, 0, 0, 0, 1, -1)$
		16	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$E_7(a_3)$		1	12	$(0, 0, 0, -1, 1, 0, 1, -1)$ $(-1, 1, 1, -1, 1, -1, 0, 0)$
		2	13	$(1, 0, 1, -1, 0, 0, 0, 0)$ $(0, 0, 0, 0, 0, -1, 1, 1)$ $(-1, 0, 0, 1, 0, -1, 0, 0)$ $(-1, 1, 1, -1, 0, 0, 1, -1)$
		3	10	$(0, 0, 0, -1, 1, 0, 0, 1)$ $(1, 1, 0, -1, 1, -1, 0, 0)$ $(-1, 0, 0, 0, 1, -1, 1, -1)$
(continued on next page)				

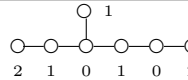
Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		4	11	$(0, 0, 1, 0, 0, -1, 0, 0)$ $(1, 1, 0, -1, 0, 0, 1, -1)$ $(-1, 1, 1, -1, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$
		5	10	$(-1, 0, 0, 0, 1, -1, 0, 1)$ $(0, 0, 1, -1, 1, -1, 1, -1)$
		6	10	$(1, 1, 0, -1, 0, 0, 0, 1)$ $(0, 0, 1, -1, 0, 1, 0, -1)$ $(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, 0, -1, 1, -1)$
		7	8	$(0, 0, 1, -1, 1, -1, 0, 1)$ $(0, 1, 0, -1, 1, 0, 0, -1)$
		8	8	$(0, 1, 0, 0, 0, -1, 0, 1)$ $(0, 0, 1, -1, 0, 0, 1, 0)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
		9	8	$(0, 1, 0, -1, 1, -1, 1, 0)$
		10	7	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(0, 1, 0, -1, 0, 1, 0, 0)$ $(-1, 0, 1, 0, 0, -1, 1, 0)$
		11	4	$(-1, 0, 1, -1, 1, 0, 0, 0)$
		12	4	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		13	2	$(1, 0, 0, -1, 1, 0, 0, 0)$
		14	4	$(0, 1, 1, -1, 0, 0, 0, 0)$
		15	2	$(0, 0, 0, 0, 1, -1, 0, 0)$
		16	2	$(0, 0, 0, 0, 0, 0, 1, -1)$
		18	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$E_8(b_6)$		2	28	$(0, 0, 0, -1, 1, 0, 0, 1)$ $(1, 1, 0, -1, 0, 0, 1, -1)$
		4	24	$(1, 1, 0, -1, 0, 0, 0, 1)$ $(0, 0, 1, -1, 0, 1, 0, -1)$
		6	20	$(0, 0, 1, -1, 0, 0, 1, 0)$ $(0, 1, 0, -1, 1, 0, 0, -1)$
		8	15	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(0, 1, 0, -1, 0, 1, 0, 0)$
		10	12	$(1, 0, 0, -1, 1, 0, 0, 0)$
		12	6	$(0, 1, 1, -1, 0, 0, 0, 0)$
		14	4	$(0, 0, 0, 0, 0, 0, 1, -1)$
		16	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$D_7(a_1)$		2	25	$(0, 0, 0, 0, -1, 1, 0, 1)$ $(1, 1, 0, 0, -1, 0, 0, 0)$ $(-1, 0, 0, 1, -1, 0, 1, -1)$
		4	21	$(-1, 0, 0, 1, -1, 0, 0, 1)$ $(0, 0, 1, 0, -1, 0, 1, -1)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$
		6	19	$(0, 0, 1, 0, -1, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, -1, 1, 0, -1)$
(continued on next page)				

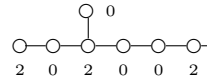
Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		8	16	$(0, 1, 0, 0, -1, 0, 1, 0)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
		10	13	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 0, 1, 0, -1, 1, 0, 0)$
		12	7	$(1, 0, 0, 0, -1, 1, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		14	6	$(0, 0, 0, 1, -1, 0, 0, 0)$
		16	3	$(0, 0, 0, 0, 0, 0, 1, -1)$
		18	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$E_6 + A_1$		1	12	$(1, 0, 1, -1, 0, 0, 0, 0)$ $(0, 0, 0, -1, 1, 1, -1, 0)$ $(-1, 1, 1, -1, 1, -1, 0, 0)$
		2	11	$(0, 0, 0, 0, 0, -1, 2, -1)$ $(0, 0, 0, 0, 0, 0, -1, 2)$ $(1, 1, 0, -1, 1, -1, 0, 0)$ $(-1, 0, 0, 1, 0, -1, 0, 0)$ $(-1, 1, 1, -1, 0, 1, -1, 0)$
		3	8	$(0, 0, 0, -1, 1, 0, 1, -1)$ $(1, 1, 0, -1, 0, 1, -1, 0)$ $(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$
		4	9	$(0, 0, 0, 0, 0, -1, 1, 1)$ $(-1, 1, 1, -1, 0, 0, 1, -1)$ $(0, 0, 1, -1, 1, 0, -1, 0)$
		5	8	$(0, 0, 0, -1, 1, 0, 0, 1)$ $(1, 1, 0, -1, 0, 0, 1, -1)$ $(-1, 0, 0, 0, 1, -1, 1, -1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$
		6	9	$(-1, 1, 1, -1, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$ $(0, 0, 1, -1, 1, -1, 1, -1)$
		7	8	$(1, 1, 0, -1, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$ $(0, 0, 1, -1, 0, 1, 0, -1)$ $(0, 1, 0, 0, 0, -1, 1, -1)$
		8	9	$(-1, 0, 0, 0, 0, 1, -1, 1)$ $(0, 0, 1, -1, 1, -1, 0, 1)$ $(0, 1, 0, -1, 1, 0, 0, -1)$
		9	6	$(0, 0, 1, -1, 0, 1, -1, 1)$ $(0, 1, 0, 0, 0, -1, 0, 1)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
		10	6	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, -1, 1, 0, -1, 1)$ $(1, 0, 0, 0, 0, 0, 0, -1)$
		11	4	$(0, 0, 1, -1, 0, 0, 1, 0)$ $(-1, 0, 1, 0, 0, 0, -1, 1)$
		12	5	$(0, 1, 0, -1, 1, -1, 1, 0)$ $(1, 0, 0, 0, 0, 0, -1, 1)$
		13	4	$(0, 1, 0, -1, 0, 1, 0, 0)$ $(-1, 0, 1, 0, 0, -1, 1, 0)$
(continued on next page)				

Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		14	5	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 0, 1, -1, 1, 0, 0, 0)$
		15	4	$(1, 0, 0, 0, -1, 1, 0, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0, 0)$
		16	4	$(0, 1, 1, -1, 0, 0, 0, 0, 0)$
		17	2	$(0, 0, 0, 0, 0, 1, -1, 0, 0, 0)$
		18	1	$(0, 0, 0, 0, 0, 0, 1, -1, 0)$
		20	1	$(0, 0, 0, 0, 0, 0, 0, 1, -1)$
		22	1	$(0, 0, 0, 0, 0, 0, 0, 0, 1)$
$E_7(a_2)$	0 1 0 1 0 2 2	1	10	$(0, 1, -1, 1, -1, 0, 0, 0)$ $(1, -1, 0, 1, -1, 0, 0, 0)$ $(0, -1, -1, 1, 0, 1, -1, 0)$
		2	11	$(0, 0, 0, 0, 0, 0, -1, 2)$ $(0, 0, 0, 0, -1, 1, 1, -1)$ $(1, 1, 0, 0, -1, 0, 0, 0)$ $(0, 1, -1, 0, 0, 1, -1, 0)$ $(1, -1, 0, 0, 0, 1, -1, 0)$
		3	10	$(0, -1, -1, 1, 0, 0, 1, -1)$ $(1, 0, -1, 1, -1, 1, -1, 0)$
		4	9	$(0, 0, 0, 0, -1, 1, 0, 1)$ $(0, 1, -1, 0, 0, 0, 1, -1)$ $(1, -1, 0, 0, 0, 0, 1, -1)$ $(0, 0, 1, 0, -1, 1, -1, 0)$ $(1, 0, -1, 0, 1, 0, -1, 0)$
		5	8	$(0, -1, -1, 1, 0, 0, 0, 1)$ $(1, 0, -1, 1, -1, 0, 1, -1)$ $(0, -1, 0, 1, 0, 0, -1, 0)$
		6	9	$(0, 1, -1, 0, 0, 0, 0, 1)$ $(1, -1, 0, 0, 0, 0, 0, 1)$ $(0, 0, 1, 0, -1, 0, 1, -1)$ $(1, 0, -1, 0, 0, 1, 0, -1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$
		7	8	$(1, 0, -1, 1, -1, 0, 0, 1)$ $(0, -1, 0, 1, -1, 1, 0, -1)$
		8	8	$(0, 0, 1, 0, -1, 0, 0, 1)$ $(1, 0, -1, 0, 0, 1, -1, 1)$ $(0, 1, 0, 0, -1, 1, 0, -1)$ $(0, -1, 0, 0, 1, 0, 0, -1)$
		9	6	$(0, -1, 0, 1, -1, 1, -1, 1)$ $(0, 0, -1, 1, 0, 0, 0, -1)$
		10	7	$(1, 0, -1, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, -1, 1, -1, 1)$ $(0, -1, 0, 0, 1, 0, -1, 1)$ $(1, 0, 0, 0, 0, 0, 0, -1)$
		11	4	$(0, -1, 0, 1, -1, 0, 1, 0)$ $(0, 0, -1, 1, 0, 0, -1, 1)$
		12	5	$(0, 1, 0, 0, -1, 0, 1, 0)$ $(0, -1, 0, 0, 0, 1, 0, 0)$ $(1, 0, 0, 0, 0, 0, -1, 1)$
(continued on next page)				

Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		13	4	$(0, 0, -1, 1, -1, 1, 0, 0)$
		14	5	$(0, 0, -1, 0, 1, 0, 0, 0)$ $(1, 0, 0, 0, -1, 1, 0, 0)$
		15	4	$(1, -1, -1, 1, 0, 0, 0, 0)$
		16	3	$(1, 1, -1, 0, 0, 0, 0, 0)$ $(0, -1, 1, 0, 0, 0, 0, 0)$
		17	2	$(0, 0, 0, 1, -1, 0, 0, 0)$
		18	2	$(0, 0, 0, 0, 0, 1, -1, 0)$
		20	1	$(0, 0, 0, 0, 0, 0, 1, -1)$
		22	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$E_8(a_6)$		2	24	$(0, 0, 0, -1, 1, 0, 0, 1)$ $(1, 1, 0, -1, 0, 1, -1, 0)$
		4	21	$(1, 1, 0, -1, 0, 0, 0, 1)$ $(0, 0, 1, -1, 1, 0, -1, 0)$
		6	20	$(0, 1, 0, 0, 0, 0, -1, 0)$ $(0, 0, 1, -1, 0, 1, -1, 1)$
		8	15	$(0, 0, 1, -1, 0, 0, 1, 0)$ $(0, 1, 0, -1, 1, 0, -1, 1)$
		10	12	$(0, 1, 0, -1, 0, 1, 0, 0)$ $(1, 0, 0, 0, 0, 0, -1, 1)$
		12	9	$(1, 0, 0, -1, 1, 0, 0, 0)$
		14	6	$(0, 1, 1, -1, 0, 0, 0, 0)$
		16	3	$(0, 0, 0, 0, 0, 1, -1, 0)$
		18	2	$(0, 0, 0, 0, 0, 0, 0, 1)$
D_7		1	10	$(0, 1, -1, 1, -1, 0, 0, 0)$ $(-1, -1, 1, 1, -1, 0, 0, 0)$ $(0, -1, -1, 1, 1, -1, 0, 0)$ $(0, 0, 0, 0, -1, 1, 1, -1)$ $(0, 0, 0, 0, 0, -1, 1, 1)$
		2	9	$(2, 0, -1, 0, 0, 0, 0, 0)$ $(-1, 1, 1, 0, -1, 0, 0, 0)$ $(0, 1, -1, 0, 1, -1, 0, 0)$ $(-1, -1, 1, 0, 1, -1, 0, 0)$ $(0, 0, 0, 0, -1, 1, 0, 1)$ $(0, -1, -1, 1, 0, 0, 1, -1)$
		3	10	$(1, -1, 0, 1, -1, 0, 0, 0)$ $(-1, 0, 0, 1, 0, -1, 0, 0)$ $(0, 1, -1, 0, 0, 0, 1, -1)$ $(-1, -1, 1, 0, 0, 0, 1, -1)$ $(0, -1, -1, 1, 0, 0, 0, 1)$
		4	8	$(1, 1, 0, 0, -1, 0, 0, 0)$ $(1, -1, 0, 0, 1, -1, 0, 0)$ $(0, 1, -1, 0, 0, 0, 0, 1)$ $(-1, -1, 1, 0, 0, 0, 0, 1)$ $(-1, 0, 0, 1, -1, 0, 1, -1)$
		5	8	$(1, 0, -1, 1, 0, -1, 0, 0)$ $(1, -1, 0, 0, 0, 0, 1, -1)$ $(-1, 0, 0, 0, 1, -1, 1, -1)$ $(-1, 0, 0, 1, -1, 0, 0, 1)$
(continued on next page)				

Nilpotent orbits in type E_8 (continued)						
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$		
		6	8	$(0, 0, 1, 0, 0, -1, 0, 0)$ $(1, -1, 0, 0, 0, 0, 0, 1)$ $(1, 0, -1, 1, -1, 0, 1, -1)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$		
		7	8	$(0, 0, 1, 0, -1, 0, 1, -1)$ $(1, 0, -1, 0, 1, -1, 1, -1)$ $(1, 0, -1, 1, -1, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 0, 1, 0)$		
		8	7	$(0, 0, 1, 0, -1, 0, 0, 1)$ $(1, 0, -1, 0, 0, 1, 0, -1)$ $(1, 0, -1, 0, 1, -1, 0, 1)$ $(0, -1, 0, 1, 0, -1, 1, -1)$		
		9	8	$(0, 1, 0, 0, 0, -1, 1, -1)$ $(0, -1, 0, 1, -1, 1, 0, -1)$ $(0, -1, 0, 1, 0, -1, 0, 1)$ $(1, 0, -1, 0, 0, 0, 1, 0)$		
		10	7	$(0, 1, 0, 0, -1, 1, 0, -1)$ $(0, 1, 0, 0, 0, -1, 0, 1)$ $(0, -1, 0, 0, 1, 0, 0, -1)$ $(0, -1, 0, 1, -1, 0, 1, 0)$		
		11	6	$(0, 0, -1, 1, 0, 0, 0, -1)$ $(0, 1, 0, 0, -1, 0, 1, 0)$ $(0, -1, 0, 0, 1, -1, 1, 0)$		
		12	6	$(-1, 0, 1, 0, 0, 0, 0, -1)$ $(0, -1, 0, 0, 0, 1, 0, 0)$ $(0, 0, -1, 1, 0, -1, 1, 0)$		
		13	4	$(-1, 0, 1, 0, 0, -1, 1, 0)$ $(0, 0, -1, 1, -1, 1, 0, 0)$		
		14	3	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 0, 1, 0, -1, 1, 0, 0)$ $(0, 0, -1, 0, 1, 0, 0, 0)$		
		15	4	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, -1, 0, 1, 0, 0, 0, 0)$		
		16	2	$(1, 0, 0, 0, -1, 1, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$		
		17	2	$(1, -1, -1, 1, 0, 0, 0, 0)$		
		18	2	$(1, 1, -1, 0, 0, 0, 0, 0)$ $(0, -1, 1, 0, 0, 0, 0, 0)$		
		19	2	$(0, 0, 0, 1, -1, 0, 0, 0)$		
		20	1	$(0, 0, 0, 0, 1, -1, 0, 0)$		
		21	2	$(0, 0, 0, 0, 0, 0, 1, -1)$		
		22	1	$(0, 0, 0, 0, 0, 0, 0, 1)$		
		$E_8(b_5)$		2	22	$(0, 0, 0, 0, 0, 0, -1, 2)$ $(0, 0, 0, -1, 1, 0, 1, -1)$ $(1, 1, 0, -1, 0, 1, -1, 0)$
				4	18	$(0, 0, 0, -1, 1, 0, 0, 1)$ $(1, 1, 0, -1, 0, 0, 1, -1)$ $(0, 0, 1, -1, 1, 0, -1, 0)$
		(continued on next page)				

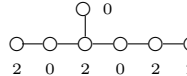
Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		6	17	$(1, 1, 0, -1, 0, 0, 0, 1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$ $(0, 0, 1, -1, 0, 1, 0, -1)$
		8	15	$(0, 0, 1, -1, 0, 1, -1, 1)$ $(0, 1, 0, -1, 1, 0, 0, -1)$
		10	12	$(0, 0, 1, -1, 0, 0, 1, 0)$ $(0, 1, 0, -1, 1, 0, -1, 1)$ $(1, 0, 0, 0, 0, 0, 0, -1)$
		12	9	$(0, 1, 0, -1, 0, 1, 0, 0)$ $(1, 0, 0, 0, 0, 0, -1, 1)$
		14	9	$(1, 0, 0, -1, 1, 0, 0, 0)$
		16	6	$(0, 1, 1, -1, 0, 0, 0, 0)$
		18	3	$(0, 0, 0, 0, 0, 1, -1, 0)$
		20	1	$(0, 0, 0, 0, 0, 0, 1, -1)$
		22	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$E_7(a_1)$		1	8	$(0, 1, -1, 1, -1, 0, 0, 0)$ $(-1, -1, 1, 1, -1, 0, 0, 0)$ $(0, -1, -1, 1, 0, 1, -1, 0)$
		2	9	$(2, 0, -1, 0, 0, 0, 0, 0)$ $(0, 0, 0, 0, 0, 0, -1, 2)$ $(0, 0, 0, 0, -1, 1, 1, -1)$ $(-1, 1, 1, 0, -1, 0, 0, 0)$ $(0, 1, -1, 0, 0, 1, -1, 0)$ $(-1, -1, 1, 0, 0, 1, -1, 0)$
		3	8	$(1, -1, 0, 1, -1, 0, 0, 0)$ $(0, -1, -1, 1, 0, 0, 1, -1)$ $(-1, 0, 0, 1, -1, 1, -1, 0)$
		4	8	$(0, 0, 0, 0, -1, 1, 0, 1)$ $(1, 1, 0, 0, -1, 0, 0, 0)$ $(1, -1, 0, 0, 0, 1, -1, 0)$ $(0, 1, -1, 0, 0, 0, 1, -1)$ $(-1, -1, 1, 0, 0, 0, 1, -1)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$
		5	8	$(0, -1, -1, 1, 0, 0, 0, 1)$ $(1, 0, -1, 1, -1, 1, -1, 0)$ $(-1, 0, 0, 1, -1, 0, 1, -1)$
		6	8	$(1, -1, 0, 0, 0, 0, 1, -1)$ $(0, 1, -1, 0, 0, 0, 0, 1)$ $(-1, -1, 1, 0, 0, 0, 0, 1)$ $(0, 0, 1, 0, -1, 1, -1, 0)$ $(1, 0, -1, 0, 1, 0, -1, 0)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$
		7	6	$(1, 0, -1, 1, -1, 0, 1, -1)$ $(-1, 0, 0, 1, -1, 0, 0, 1)$ $(0, -1, 0, 1, 0, 0, -1, 0)$
		8	7	$(1, -1, 0, 0, 0, 0, 0, 1)$ $(0, 0, 1, 0, -1, 0, 1, -1)$ $(1, 0, -1, 0, 0, 1, 0, -1)$ $(-1, 0, 0, 0, 0, 1, -1, 1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$
		(continued on next page)		

Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		9	6	$(1, 0, -1, 1, -1, 0, 0, 1)$ $(0, -1, 0, 1, -1, 1, 0, -1)$
		10	7	$(0, 0, 1, 0, -1, 0, 0, 1)$ $(1, 0, -1, 0, 0, 1, -1, 1)$ $(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, -1, 1, 0, -1)$ $(0, -1, 0, 0, 1, 0, 0, -1)$
		11	6	$(0, -1, 0, 1, -1, 1, -1, 1)$ $(0, 0, -1, 1, 0, 0, 0, -1)$
		12	5	$(1, 0, -1, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, -1, 1, -1, 1)$ $(0, -1, 0, 0, 1, 0, -1, 1)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
		13	4	$(0, -1, 0, 1, -1, 0, 1, 0)$ $(0, 0, -1, 1, 0, 0, -1, 1)$
		14	5	$(0, 1, 0, 0, -1, 0, 1, 0)$ $(0, -1, 0, 0, 0, 1, 0, 0)$ $(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 0, 1, 0, 0, 0, -1, 1)$
		15	4	$(0, 0, -1, 1, -1, 1, 0, 0)$
		16	4	$(1, 0, 0, 0, 0, 0, -1, 1)$ $(-1, 0, 1, 0, -1, 1, 0, 0)$ $(0, 0, -1, 0, 1, 0, 0, 0)$
		17	2	$(-1, -1, 0, 1, 0, 0, 0, 0)$
		18	3	$(1, 0, 0, 0, -1, 1, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		19	2	$(1, -1, -1, 1, 0, 0, 0, 0)$
		20	2	$(1, 1, -1, 0, 0, 0, 0, 0)$ $(0, -1, 1, 0, 0, 0, 0, 0)$
		21	2	$(0, 0, 0, 1, -1, 0, 0, 0)$
		22	2	$(0, 0, 0, 0, 0, 1, -1, 0)$
		24	1	$(0, 0, 0, 0, 0, 0, 1, -1)$
		26	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$E_8(a_5)$		2	20	$(1, 0, 1, -1, 0, 0, 0, 0)$ $(0, 0, 0, -1, 1, 0, 0, 1)$ $(-1, 1, 1, -1, 0, 1, -1, 0)$
		4	17	$(1, 1, 0, -1, 0, 1, -1, 0)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$ $(-1, 1, 1, -1, 0, 0, 0, 1)$
		6	16	$(1, 1, 0, -1, 0, 0, 0, 1)$ $(0, 0, 1, -1, 1, 0, -1, 0)$ $(-1, 0, 0, 0, 0, 1, -1, 1)$
		8	15	$(0, 1, 0, 0, 0, 0, -1, 0)$ $(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 0, 1, -1, 0, 1, -1, 1)$
		10	14	$(0, 0, 1, -1, 0, 0, 1, 0)$ $(0, 1, 0, -1, 1, 0, -1, 1)$
		12	10	$(-1, 0, 1, 0, 0, 0, -1, 1)$ $(0, 1, 0, -1, 0, 1, 0, 0)$
(continued on next page)				

Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		14	8	$(1, 0, 0, 0, 0, 0, -1, 1)$ $(-1, 0, 1, -1, 1, 0, 0, 0)$
		16	5	$(1, 0, 0, -1, 1, 0, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		18	4	$(0, 1, 1, -1, 0, 0, 0, 0)$
		20	3	$(0, 0, 0, 0, 0, 1, -1, 0)$
		22	2	$(0, 0, 0, 0, 0, 0, 0, 1)$
$E_8(b_4)$		2	18	$(0, 0, 0, 0, 0, 0, -1, 2)$ $(1, 0, 1, -1, 0, 0, 0, 0)$ $(0, 0, 0, -1, 1, 0, 1, -1)$ $(-1, 1, 1, -1, 0, 1, -1, 0)$
		4	16	$(0, 0, 0, -1, 1, 0, 0, 1)$ $(1, 1, 0, -1, 0, 1, -1, 0)$ $(-1, 1, 1, -1, 0, 0, 1, -1)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$
		6	15	$(1, 1, 0, -1, 0, 0, 1, -1)$ $(-1, 1, 1, -1, 0, 0, 0, 1)$ $(0, 0, 1, -1, 1, 0, -1, 0)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$
		8	13	$(1, 1, 0, -1, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 1, -1, 1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$ $(0, 0, 1, -1, 0, 1, 0, -1)$
		10	13	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 0, 1, -1, 0, 1, -1, 1)$ $(0, 1, 0, -1, 1, 0, 0, -1)$
		12	10	$(0, 0, 1, -1, 0, 0, 1, 0)$ $(0, 1, 0, -1, 1, 0, -1, 1)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
		14	9	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 0, 1, 0, 0, 0, -1, 1)$ $(0, 1, 0, -1, 0, 1, 0, 0)$
		16	7	$(1, 0, 0, 0, 0, 0, -1, 1)$ $(-1, 0, 1, -1, 1, 0, 0, 0)$
		18	5	$(1, 0, 0, -1, 1, 0, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		20	4	$(0, 1, 1, -1, 0, 0, 0, 0)$
		22	3	$(0, 0, 0, 0, 0, 1, -1, 0)$
		24	1	$(0, 0, 0, 0, 0, 0, 1, -1)$
		26	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
E_7		1	6	$(0, 1, -1, 1, -1, 0, 0, 0)$ $(-1, -1, 1, 1, -1, 0, 0, 0)$ $(0, -1, -1, 1, 1, -1, 0, 0)$
		2	7	$(2, 0, -1, 0, 0, 0, 0, 0)$ $(0, 0, 0, 0, -1, 2, -1, 0)$ $(0, 0, 0, 0, 0, -1, 2, -1)$ $(0, 0, 0, 0, 0, 0, -1, 2)$ $(-1, 1, 1, 0, -1, 0, 0, 0)$ $(0, 1, -1, 0, 1, -1, 0, 0)$ $(-1, -1, 1, 0, 1, -1, 0, 0)$
(continued on next page)				

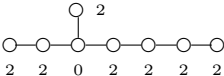
Nilpotent orbits in type E_8 (continued)						
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$		
		3	6	$(1, -1, 0, 1, -1, 0, 0, 0)$ $(0, -1, -1, 1, 0, 1, -1, 0)$ $(-1, 0, 0, 1, 0, -1, 0, 0)$		
		4	6	$(0, 0, 0, 0, -1, 1, 1, -1)$ $(0, 0, 0, 0, 0, -1, 1, 1)$ $(1, 1, 0, 0, -1, 0, 0, 0)$ $(1, -1, 0, 0, 1, -1, 0, 0)$ $(0, 1, -1, 0, 0, 1, -1, 0)$ $(-1, -1, 1, 0, 0, 1, -1, 0)$		
		5	6	$(0, -1, -1, 1, 0, 0, 1, -1)$ $(1, 0, -1, 1, 0, -1, 0, 0)$ $(-1, 0, 0, 1, -1, 1, -1, 0)$		
		6	6	$(0, 0, 0, 0, -1, 1, 0, 1)$ $(1, -1, 0, 0, 0, 1, -1, 0)$ $(0, 1, -1, 0, 0, 0, 1, -1)$ $(-1, -1, 1, 0, 0, 0, 1, -1)$ $(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$		
		7	6	$(0, -1, -1, 1, 0, 0, 0, 1)$ $(1, 0, -1, 1, -1, 1, -1, 0)$ $(-1, 0, 0, 1, -1, 0, 1, -1)$		
		8	6	$(1, -1, 0, 0, 0, 0, 1, -1)$ $(0, 1, -1, 0, 0, 0, 0, 1)$ $(-1, -1, 1, 0, 0, 0, 0, 1)$ $(0, 0, 1, 0, -1, 1, -1, 0)$ $(1, 0, -1, 0, 1, 0, -1, 0)$ $(-1, 0, 0, 0, 1, -1, 1, -1)$		
		9	6	$(1, 0, -1, 1, -1, 0, 1, -1)$ $(-1, 0, 0, 1, -1, 0, 0, 1)$ $(0, -1, 0, 1, 0, 0, -1, 0)$		
		10	6	$(1, -1, 0, 0, 0, 0, 0, 1)$ $(0, 0, 1, 0, -1, 0, 1, -1)$ $(1, 0, -1, 0, 1, -1, 1, -1)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$		
		11	4	$(1, 0, -1, 1, -1, 0, 0, 1)$ $(0, -1, 0, 1, 0, -1, 1, -1)$		
		12	5	$(0, 0, 1, 0, -1, 0, 0, 1)$ $(1, 0, -1, 0, 0, 1, 0, -1)$ $(1, 0, -1, 0, 1, -1, 0, 1)$ $(-1, 0, 0, 0, 0, 1, -1, 1)$ $(0, 1, 0, 0, 0, -1, 1, -1)$		
		13	4	$(0, -1, 0, 1, -1, 1, 0, -1)$ $(0, -1, 0, 1, 0, -1, 0, 1)$		
		14	5	$(1, 0, -1, 0, 0, 1, -1, 1)$ $(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, -1, 1, 0, -1)$ $(0, 1, 0, 0, 0, -1, 0, 1)$ $(0, -1, 0, 0, 1, 0, 0, -1)$		
		<i>(continued on next page)</i>				

Nilpotent orbits in type E_8 (continued)						
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$		
		15	4	$(0, -1, 0, 1, -1, 1, -1, 1)$ $(0, 0, -1, 1, 0, 0, 0, -1)$		
		16	4	$(1, 0, -1, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, -1, 1, -1, 1)$ $(0, -1, 0, 0, 1, 0, -1, 1)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$		
				17	4	$(0, -1, 0, 1, -1, 0, 1, 0)$ $(0, 0, -1, 1, 0, 0, -1, 1)$
						18
				19	2	
		20	3	$(0, -1, 0, 0, 0, 1, 0, 0)$ $(1, 0, 0, 0, 0, 0, -1, 1)$ $(-1, 0, 1, 0, 0, -1, 1, 0)$		
				21	2	$(0, 0, -1, 1, -1, 1, 0, 0)$
		22	3	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 0, 1, 0, -1, 1, 0, 0)$ $(0, 0, -1, 0, 1, 0, 0, 0)$		
				23	2	$(-1, -1, 0, 1, 0, 0, 0, 0)$
		24	2	$(1, 0, 0, 0, -1, 1, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$		
				25	2	$(1, -1, -1, 1, 0, 0, 0, 0)$
		26	2	$(1, 1, -1, 0, 0, 0, 0, 0)$ $(0, -1, 1, 0, 0, 0, 0, 0)$		
				27	2	$(0, 0, 0, 1, -1, 0, 0, 0)$
		28	1	$(0, 0, 0, 0, 1, -1, 0, 0)$		
		30	1	$(0, 0, 0, 0, 0, 1, -1, 0)$		
		32	1	$(0, 0, 0, 0, 0, 0, 1, -1)$		
		34	1	$(0, 0, 0, 0, 0, 0, 0, 1)$		
$E_8(a_4)$		2	16	$(1, 0, 1, -1, 0, 0, 0, 0)$ $(0, 0, 0, 0, 0, -1, 1, 1)$ $(0, 0, 0, -1, 1, 0, 1, -1)$ $(-1, 1, 1, -1, 1, -1, 0, 0)$		
		4	15	$(0, 0, 0, -1, 1, 0, 0, 1)$ $(1, 1, 0, -1, 1, -1, 0, 0)$ $(-1, 0, 0, 1, 0, -1, 0, 0)$ $(-1, 1, 1, -1, 0, 0, 1, -1)$		
		6	14	$(0, 0, 1, 0, 0, -1, 0, 0)$ $(1, 1, 0, -1, 0, 0, 1, -1)$ $(-1, 1, 1, -1, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 1, -1, 1, -1)$		
		8	13	$(1, 1, 0, -1, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$ $(0, 0, 1, -1, 1, -1, 1, -1)$		
(continued on next page)						

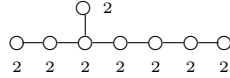
Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		10	12	$(0, 0, 1, -1, 0, 1, 0, -1)$ $(0, 0, 1, -1, 1, -1, 0, 1)$ $(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, 0, -1, 1, -1)$
		12	10	$(0, 1, 0, 0, 0, -1, 0, 1)$ $(0, 0, 1, -1, 0, 0, 1, 0)$ $(0, 1, 0, -1, 1, 0, 0, -1)$
		14	10	$(-1, 0, 1, 0, 0, 0, 0, -1)$ $(0, 1, 0, -1, 1, -1, 1, 0)$
		16	7	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(0, 1, 0, -1, 0, 1, 0, 0)$ $(-1, 0, 1, 0, 0, -1, 1, 0)$
		18	6	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 0, 1, -1, 1, 0, 0, 0)$
		20	4	$(1, 0, 0, -1, 1, 0, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		22	4	$(0, 1, 1, -1, 0, 0, 0, 0)$
		24	2	$(0, 0, 0, 0, 1, -1, 0, 0)$
		26	2	$(0, 0, 0, 0, 0, 0, 1, -1)$
		28	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
$E_8(a_3)$		2	14	$(0, 0, 0, 0, 0, -1, 2, -1)$ $(0, 0, 0, 0, 0, 0, -1, 2)$ $(1, 0, 1, -1, 0, 0, 0, 0)$ $(0, 0, 0, -1, 1, 1, -1, 0)$ $(-1, 1, 1, -1, 1, -1, 0, 0)$
		4	12	$(0, 0, 0, 0, 0, -1, 1, 1)$ $(0, 0, 0, -1, 1, 0, 1, -1)$ $(1, 1, 0, -1, 1, -1, 0, 0)$ $(-1, 0, 0, 1, 0, -1, 0, 0)$ $(-1, 1, 1, -1, 0, 1, -1, 0)$
		6	12	$(0, 0, 0, -1, 1, 0, 0, 1)$ $(1, 1, 0, -1, 0, 1, -1, 0)$ $(-1, 1, 1, -1, 0, 0, 1, -1)$ $(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$
		8	12	$(1, 1, 0, -1, 0, 0, 1, -1)$ $(-1, 1, 1, -1, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 1, -1, 1, -1)$ $(0, 0, 1, -1, 1, 0, -1, 0)$
		10	11	$(1, 1, 0, -1, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$ $(0, 0, 1, -1, 1, -1, 1, -1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$
		12	9	$(-1, 0, 0, 0, 0, 1, -1, 1)$ $(0, 0, 1, -1, 0, 1, 0, -1)$ $(0, 0, 1, -1, 1, -1, 0, 1)$ $(0, 1, 0, 0, 0, -1, 1, -1)$
		(continued on next page)		

Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		14	9	$(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 0, 1, -1, 0, 1, -1, 1)$ $(0, 1, 0, 0, 0, -1, 0, 1)$ $(0, 1, 0, -1, 1, 0, 0, -1)$
		16	8	$(0, 0, 1, -1, 0, 0, 1, 0)$ $(0, 1, 0, -1, 1, 0, -1, 1)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$
		18	7	$(0, 1, 0, -1, 1, -1, 1, 0)$ $(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 0, 1, 0, 0, 0, -1, 1)$
		20	5	$(0, 1, 0, -1, 0, 1, 0, 0)$ $(1, 0, 0, 0, 0, 0, -1, 1)$ $(-1, 0, 1, 0, 0, -1, 1, 0)$
		22	5	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 0, 1, -1, 1, 0, 0, 0)$
		24	4	$(1, 0, 0, -1, 1, 0, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		26	4	$(0, 1, 1, -1, 0, 0, 0, 0)$
		28	2	$(0, 0, 0, 0, 1, -1, 0, 0)$
		30	1	$(0, 0, 0, 0, 0, 1, -1, 0)$
		32	1	$(0, 0, 0, 0, 0, 0, 1, -1)$
34	1	$(0, 0, 0, 0, 0, 0, 0, 1)$		
$E_8(a_2)$	<pre>graph LR; n1(()) --- 2 n2(()) --- 2 n3(()) --- 0 n4(()) --- 2 n5(()) --- 0 n6(()) --- 2 n7(()) --- 2 n8(())</pre>	2	12	$(2, 0, -1, 0, 0, 0, 0, 0)$ $(0, 0, 0, 0, 0, 0, -1, 2)$ $(0, 1, -1, 1, -1, 0, 0, 0)$ $(-1, -1, 1, 1, -1, 0, 0, 0)$ $(0, 0, 0, 0, -1, 1, 1, -1)$ $(0, -1, -1, 1, 0, 1, -1, 0)$
		4	11	$(1, -1, 0, 1, -1, 0, 0, 0)$ $(-1, 1, 1, 0, -1, 0, 0, 0)$ $(0, 0, 0, 0, -1, 1, 0, 1)$ $(0, 1, -1, 0, 0, 1, -1, 0)$ $(-1, -1, 1, 0, 0, 1, -1, 0)$ $(0, -1, -1, 1, 0, 0, 1, -1)$
		6	11	$(1, 1, 0, 0, -1, 0, 0, 0)$ $(1, -1, 0, 0, 0, 1, -1, 0)$ $(0, 1, -1, 0, 0, 0, 1, -1)$ $(-1, -1, 1, 0, 0, 0, 1, -1)$ $(0, -1, -1, 1, 0, 0, 0, 1)$ $(-1, 0, 0, 1, -1, 1, -1, 0)$
		8	10	$(1, -1, 0, 0, 0, 0, 1, -1)$ $(0, 1, -1, 0, 0, 0, 0, 1)$ $(-1, -1, 1, 0, 0, 0, 0, 1)$ $(1, 0, -1, 1, -1, 1, -1, 0)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$ $(-1, 0, 0, 1, -1, 0, 1, -1)$
(continued on next page)				

Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		10	10	$(1, -1, 0, 0, 0, 0, 0, 1)$ $(0, 0, 1, 0, -1, 1, -1, 0)$ $(1, 0, -1, 0, 1, 0, -1, 0)$ $(1, 0, -1, 1, -1, 0, 1, -1)$ $(-1, 0, 0, 1, -1, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$
		12	9	$(0, 0, 1, 0, -1, 0, 1, -1)$ $(1, 0, -1, 1, -1, 0, 0, 1)$ $(0, -1, 0, 1, 0, 0, -1, 0)$ $(1, 0, -1, 0, 0, 1, 0, -1)$ $(-1, 0, 0, 0, 0, 1, -1, 1)$
		14	9	$(0, 0, 1, 0, -1, 0, 0, 1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$ $(1, 0, -1, 0, 0, 1, -1, 1)$ $(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, -1, 0, 1, -1, 1, 0, -1)$
		16	8	$(1, 0, -1, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, -1, 1, 0, -1)$ $(0, -1, 0, 0, 1, 0, 0, -1)$ $(0, -1, 0, 1, -1, 1, -1, 1)$
		18	7	$(0, 1, 0, 0, -1, 1, -1, 1)$ $(0, -1, 0, 0, 1, 0, -1, 1)$ $(0, -1, 0, 1, -1, 0, 1, 0)$ $(0, 0, -1, 1, 0, 0, 0, -1)$
		20	6	$(0, 1, 0, 0, -1, 0, 1, 0)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$ $(0, 0, -1, 1, 0, 0, -1, 1)$ $(0, -1, 0, 0, 0, 1, 0, 0)$
		22	6	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 0, 1, 0, 0, 0, -1, 1)$ $(0, 0, -1, 1, -1, 1, 0, 0)$
		24	4	$(1, 0, 0, 0, 0, 0, -1, 1)$ $(-1, 0, 1, 0, -1, 1, 0, 0)$ $(0, 0, -1, 0, 1, 0, 0, 0)$
		26	4	$(1, 0, 0, 0, -1, 1, 0, 0)$ $(-1, -1, 0, 1, 0, 0, 0, 0)$
		28	3	$(1, -1, -1, 1, 0, 0, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		30	2	$(1, 1, -1, 0, 0, 0, 0, 0)$ $(0, -1, 1, 0, 0, 0, 0, 0)$
		32	2	$(0, 0, 0, 1, -1, 0, 0, 0)$
		34	2	$(0, 0, 0, 0, 0, 1, -1, 0)$
		36	1	$(0, 0, 0, 0, 0, 0, 1, -1)$
		38	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
(continued on next page)				

Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
$E_8(a_1)$		2	10	$(2, 0, -1, 0, 0, 0, 0, 0)$ $(0, 0, 0, 0, -1, 2, -1, 0)$ $(0, 0, 0, 0, 0, -1, 2, -1)$ $(0, 0, 0, 0, 0, 0, -1, 2)$ $(0, 1, -1, 1, -1, 0, 0, 0)$ $(-1, -1, 1, 1, -1, 0, 0, 0)$ $(0, -1, -1, 1, 1, -1, 0, 0)$
		4	9	$(0, 0, 0, 0, -1, 1, 1, -1)$ $(0, 0, 0, 0, 0, -1, 1, 1)$ $(1, -1, 0, 1, -1, 0, 0, 0)$ $(-1, 1, 1, 0, -1, 0, 0, 0)$ $(0, 1, -1, 0, 1, -1, 0, 0)$ $(-1, -1, 1, 0, 1, -1, 0, 0)$ $(0, -1, -1, 1, 0, 1, -1, 0)$
		6	9	$(0, 0, 0, 0, -1, 1, 0, 1)$ $(1, 1, 0, 0, -1, 0, 0, 0)$ $(1, -1, 0, 0, 1, -1, 0, 0)$ $(0, 1, -1, 0, 0, 1, -1, 0)$ $(-1, -1, 1, 0, 0, 1, -1, 0)$ $(0, -1, -1, 1, 0, 0, 1, -1)$ $(-1, 0, 0, 1, 0, -1, 0, 0)$
		8	9	$(1, -1, 0, 0, 0, 1, -1, 0)$ $(0, 1, -1, 0, 0, 0, 1, -1)$ $(-1, -1, 1, 0, 0, 0, 1, -1)$ $(0, -1, -1, 1, 0, 0, 0, 1)$ $(1, 0, -1, 1, 0, -1, 0, 0)$ $(-1, 0, 0, 1, -1, 1, -1, 0)$
		10	9	$(1, -1, 0, 0, 0, 0, 1, -1)$ $(0, 1, -1, 0, 0, 0, 0, 1)$ $(-1, -1, 1, 0, 0, 0, 0, 1)$ $(0, 0, 1, 0, 0, -1, 0, 0)$ $(1, 0, -1, 1, -1, 1, -1, 0)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$ $(-1, 0, 0, 1, -1, 0, 1, -1)$
		12	8	$(1, -1, 0, 0, 0, 0, 0, 1)$ $(0, 0, 1, 0, -1, 1, -1, 0)$ $(1, 0, -1, 0, 1, 0, -1, 0)$ $(1, 0, -1, 1, -1, 0, 1, -1)$ $(-1, 0, 0, 0, 1, -1, 1, -1)$ $(-1, 0, 0, 1, -1, 0, 0, 1)$
		14	8	$(0, 0, 1, 0, -1, 0, 1, -1)$ $(1, 0, -1, 0, 1, -1, 1, -1)$ $(1, 0, -1, 1, -1, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$ $(0, -1, 0, 1, 0, 0, -1, 0)$
(continued on next page)				

Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		16	7	$(0, 0, 1, 0, -1, 0, 0, 1)$ $(1, 0, -1, 0, 0, 1, 0, -1)$ $(1, 0, -1, 0, 1, -1, 0, 1)$ $(-1, 0, 0, 0, 0, 1, -1, 1)$ $(0, 1, 0, 0, 0, 0, -1, 0)$ $(0, -1, 0, 1, 0, -1, 1, -1)$
		18	7	$(1, 0, -1, 0, 0, 1, -1, 1)$ $(-1, 0, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, 0, -1, 1, -1)$ $(0, -1, 0, 1, -1, 1, 0, -1)$ $(0, -1, 0, 1, 0, -1, 0, 1)$
		20	6	$(1, 0, -1, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, -1, 1, 0, -1)$ $(0, 1, 0, 0, 0, -1, 0, 1)$ $(0, -1, 0, 0, 1, 0, 0, -1)$ $(0, -1, 0, 1, -1, 1, -1, 1)$
		22	6	$(0, 1, 0, 0, -1, 1, -1, 1)$ $(0, -1, 0, 0, 1, 0, -1, 1)$ $(0, -1, 0, 1, -1, 0, 1, 0)$ $(0, 0, -1, 1, 0, 0, 0, -1)$
		24	5	$(0, 1, 0, 0, -1, 0, 1, 0)$ $(0, -1, 0, 0, 1, -1, 1, 0)$ $(-1, 0, 1, 0, 0, 0, 0, -1)$ $(0, 0, -1, 1, 0, 0, -1, 1)$
		26	5	$(0, -1, 0, 0, 0, 1, 0, 0)$ $(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 0, 1, 0, 0, 0, -1, 1)$ $(0, 0, -1, 1, 0, -1, 1, 0)$
		28	4	$(1, 0, 0, 0, 0, 0, -1, 1)$ $(-1, 0, 1, 0, 0, -1, 1, 0)$ $(0, 0, -1, 1, -1, 1, 0, 0)$
		30	3	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 0, 1, 0, -1, 1, 0, 0)$ $(0, 0, -1, 0, 1, 0, 0, 0)$
		32	3	$(1, 0, 0, 0, -1, 1, 0, 0)$ $(-1, -1, 0, 1, 0, 0, 0, 0)$
		34	3	$(1, -1, -1, 1, 0, 0, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		36	2	$(1, 1, -1, 0, 0, 0, 0, 0)$ $(0, -1, 1, 0, 0, 0, 0, 0)$
		38	2	$(0, 0, 0, 1, -1, 0, 0, 0)$
		40	1	$(0, 0, 0, 0, 1, -1, 0, 0)$
		42	1	$(0, 0, 0, 0, 0, 1, -1, 0)$
		44	1	$(0, 0, 0, 0, 0, 0, 1, -1)$
		46	1	$(0, 0, 0, 0, 0, 0, 0, 1)$
(continued on next page)				

Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
E_8		2	8	$(2, 0, -1, 0, 0, 0, 0, 0)$ $(0, 2, 0, -1, 0, 0, 0, 0)$ $(-1, 0, 2, -1, 0, 0, 0, 0)$ $(0, -1, -1, 2, -1, 0, 0, 0)$ $(0, 0, 0, -1, 2, -1, 0, 0)$ $(0, 0, 0, 0, -1, 2, -1, 0)$ $(0, 0, 0, 0, 0, -1, 2, -1)$ $(0, 0, 0, 0, 0, 0, -1, 2)$
		4	7	$(1, 0, 1, -1, 0, 0, 0, 0)$ $(0, 1, -1, 1, -1, 0, 0, 0)$ $(-1, -1, 1, 1, -1, 0, 0, 0)$ $(0, -1, -1, 1, 1, -1, 0, 0)$ $(0, 0, 0, -1, 1, 1, -1, 0)$ $(0, 0, 0, 0, -1, 1, 1, -1)$ $(0, 0, 0, 0, 0, -1, 1, 1)$
		6	7	$(1, -1, 0, 1, -1, 0, 0, 0)$ $(-1, 1, 1, 0, -1, 0, 0, 0)$ $(0, 1, -1, 0, 1, -1, 0, 0)$ $(-1, -1, 1, 0, 1, -1, 0, 0)$ $(0, -1, -1, 1, 0, 1, -1, 0)$ $(0, 0, 0, -1, 1, 0, 1, -1)$ $(0, 0, 0, 0, -1, 1, 0, 1)$
		8	7	$(1, 1, 0, 0, -1, 0, 0, 0)$ $(1, -1, 0, 0, 1, -1, 0, 0)$ $(-1, 1, 1, -1, 1, -1, 0, 0)$ $(0, 1, -1, 0, 0, 1, -1, 0)$ $(-1, -1, 1, 0, 0, 1, -1, 0)$ $(0, -1, -1, 1, 0, 0, 1, -1)$ $(0, 0, 0, -1, 1, 0, 0, 1)$
		10	7	$(1, 1, 0, -1, 1, -1, 0, 0)$ $(1, -1, 0, 0, 0, 1, -1, 0)$ $(-1, 0, 0, 1, 0, -1, 0, 0)$ $(-1, 1, 1, -1, 0, 1, -1, 0)$ $(0, 1, -1, 0, 0, 0, 1, -1)$ $(-1, -1, 1, 0, 0, 0, 1, -1)$ $(0, -1, -1, 1, 0, 0, 0, 1)$
		12	7	$(1, 0, -1, 1, 0, -1, 0, 0)$ $(1, 1, 0, -1, 0, 1, -1, 0)$ $(1, -1, 0, 0, 0, 0, 1, -1)$ $(-1, 0, 0, 1, -1, 1, -1, 0)$ $(-1, 1, 1, -1, 0, 0, 1, -1)$ $(0, 1, -1, 0, 0, 0, 0, 1)$ $(-1, -1, 1, 0, 0, 0, 0, 1)$
		14	7	$(0, 0, 1, 0, 0, -1, 0, 0)$ $(1, 0, -1, 1, -1, 1, -1, 0)$ $(1, 1, 0, -1, 0, 0, 1, -1)$ $(1, -1, 0, 0, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$ $(-1, 0, 0, 1, -1, 0, 1, -1)$ $(-1, 1, 1, -1, 0, 0, 0, 1)$
(continued on next page)				

Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		16	6	$(0, 0, 1, 0, -1, 1, -1, 0)$ $(1, 0, -1, 0, 1, 0, -1, 0)$ $(1, 0, -1, 1, -1, 0, 1, -1)$ $(1, 1, 0, -1, 0, 0, 0, 1)$ $(-1, 0, 0, 0, 1, -1, 1, -1)$ $(-1, 0, 0, 1, -1, 0, 0, 1)$
		18	6	$(0, 0, 1, -1, 1, 0, -1, 0)$ $(0, 0, 1, 0, -1, 0, 1, -1)$ $(1, 0, -1, 0, 1, -1, 1, -1)$ $(1, 0, -1, 1, -1, 0, 0, 1)$ $(-1, 0, 0, 0, 0, 1, 0, -1)$ $(-1, 0, 0, 0, 1, -1, 0, 1)$
		20	6	$(0, -1, 0, 1, 0, 0, -1, 0)$ $(0, 0, 1, -1, 1, -1, 1, -1)$ $(0, 0, 1, 0, -1, 0, 0, 1)$ $(1, 0, -1, 0, 0, 1, 0, -1)$ $(1, 0, -1, 0, 1, -1, 0, 1)$ $(-1, 0, 0, 0, 0, 1, -1, 1)$
		22	6	$(0, 1, 0, 0, 0, 0, -1, 0)$ $(0, -1, 0, 1, 0, -1, 1, -1)$ $(0, 0, 1, -1, 0, 1, 0, -1)$ $(0, 0, 1, -1, 1, -1, 0, 1)$ $(1, 0, -1, 0, 0, 1, -1, 1)$ $(-1, 0, 0, 0, 0, 0, 1, 0)$
		24	5	$(0, 1, 0, 0, 0, -1, 1, -1)$ $(0, -1, 0, 1, -1, 1, 0, -1)$ $(0, -1, 0, 1, 0, -1, 0, 1)$ $(0, 0, 1, -1, 0, 1, -1, 1)$ $(1, 0, -1, 0, 0, 0, 1, 0)$
		26	5	$(0, 1, 0, 0, -1, 1, 0, -1)$ $(0, 1, 0, 0, 0, -1, 0, 1)$ $(0, -1, 0, 0, 1, 0, 0, -1)$ $(0, -1, 0, 1, -1, 1, -1, 1)$ $(0, 0, 1, -1, 0, 0, 1, 0)$
		28	4	$(0, 1, 0, -1, 1, 0, 0, -1)$ $(0, 1, 0, 0, -1, 1, -1, 1)$ $(0, -1, 0, 0, 1, 0, -1, 1)$ $(0, -1, 0, 1, -1, 0, 1, 0)$
		30	4	$(0, 0, -1, 1, 0, 0, 0, -1)$ $(0, 1, 0, -1, 1, 0, -1, 1)$ $(0, 1, 0, 0, -1, 0, 1, 0)$ $(0, -1, 0, 0, 1, -1, 1, 0)$
		32	4	$(-1, 0, 1, 0, 0, 0, 0, -1)$ $(0, 0, -1, 1, 0, 0, -1, 1)$ $(0, 1, 0, -1, 1, -1, 1, 0)$ $(0, -1, 0, 0, 0, 1, 0, 0)$
		34	4	$(1, 0, 0, 0, 0, 0, 0, -1)$ $(-1, 0, 1, 0, 0, 0, -1, 1)$ $(0, 0, -1, 1, 0, -1, 1, 0)$ $(0, 1, 0, -1, 0, 1, 0, 0)$
(continued on next page)				

Nilpotent orbits in type E_8 (continued)				
Bala-Carter label	Diagram	i	$\dim \mathfrak{g}_i$	Highest weights of $\mathfrak{g}_i$
		36	3	$(1, 0, 0, 0, 0, 0, -1, 1)$ $(-1, 0, 1, 0, 0, -1, 1, 0)$ $(0, 0, -1, 1, -1, 1, 0, 0)$
		38	3	$(1, 0, 0, 0, 0, -1, 1, 0)$ $(-1, 0, 1, 0, -1, 1, 0, 0)$ $(0, 0, -1, 0, 1, 0, 0, 0)$
		40	2	$(1, 0, 0, 0, -1, 1, 0, 0)$ $(-1, 0, 1, -1, 1, 0, 0, 0)$
		42	2	$(1, 0, 0, -1, 1, 0, 0, 0)$ $(-1, -1, 0, 1, 0, 0, 0, 0)$
		44	2	$(1, -1, -1, 1, 0, 0, 0, 0)$ $(-1, 1, 0, 0, 0, 0, 0, 0)$
		46	2	$(1, 1, -1, 0, 0, 0, 0, 0)$ $(0, -1, 1, 0, 0, 0, 0, 0)$
		48	1	$(0, 1, 1, -1, 0, 0, 0, 0)$
		50	1	$(0, 0, 0, 1, -1, 0, 0, 0)$
		52	1	$(0, 0, 0, 0, 1, -1, 0, 0)$
		54	1	$(0, 0, 0, 0, 0, 1, -1, 0)$
		56	1	$(0, 0, 0, 0, 0, 0, 1, -1)$
		58	1	$(0, 0, 0, 0, 0, 0, 0, 1)$

DEPARTMENT OF MATHEMATICS, UNIVERSITY OF MASSACHUSETTS, 100 MORRISSEY BOULEVARD,
 BOSTON, MA 02125-3393
E-mail address: jackson@math.umb.edu
E-mail address: anoel@math.umb.edu