

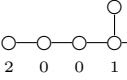
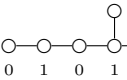
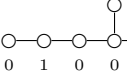
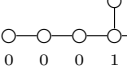
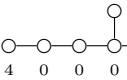
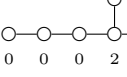
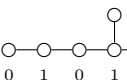
PREHOMOGENEOUS SPACES ASSOCIATED WITH NILPOTENT ORBITS IN TYPE EVI

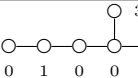
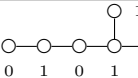
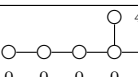
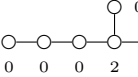
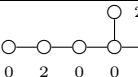
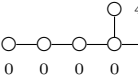
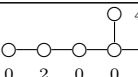
STEVEN GLENN JACKSON AND ALFRED G. NOËL

Nilpotent orbits in type EVI				
Orbit	$K_{\mathbb{C}}$ diagram	i	$\dim \mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{p}_{\mathbb{C}}$	Highest weights of $\mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{p}_{\mathbb{C}}$
1.		1	16	$(0, 0, 0, 1, -1, 0, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		2	1	$(0, 0, 0, 0, 1, 0, 1)$
2.		1	16	$(1, -1, 0, 0, 0, 1, 1)$
		2	8	$(0, 0, 0, 0, 1, 0, 1)$
3.		1	16	$(0, 0, 1, -1, 0, 1, 1)$
		2	4	$(0, 0, 0, 0, 1, 0, 1)$
4.		1	15	$(0, 1, 0, 0, -1, 0, 1)$
		2	15	$(0, 0, 0, 1, -1, 0, 1)$
		3	1	$(0, 0, 0, 0, 1, 0, 1)$
5.		1	15	$(0, 1, 0, 0, -1, 0, 1)$ $(1, -1, 0, 0, 0, 1, 1)$ $(0, 0, 0, 1, -1, 0, -1)$
		2	7	$(0, 0, 0, 1, -1, 0, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		3	1	$(0, 0, 0, 0, 1, 0, 1)$
6.		2	32	$(0, 0, 0, 0, 1, 0, 1)$
7.		2	16	$(0, 0, 0, 1, -1, 0, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		4	1	$(0, 0, 0, 0, 1, 0, 1)$
8.		2	16	$(0, 0, 0, 0, 1, 0, 1)$
9.		1	12	$(-1, 0, 0, 0, 0, 1, 1)$ $(1, -1, 0, 1, 0, -1, 1)$ $(0, 0, 1, 0, 0, -1, -1)$ $(1, -1, 0, 0, 0, 1, -1)$
<i>(continued on next page)</i>				

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

Nilpotent orbits in type EVI (continued)				
Orbit	$K_{\mathbb{C}}$ diagram	i	$\dim \mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{p}_{\mathbb{C}}$	Highest weights of $\mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{p}_{\mathbb{C}}$ $(1, -1, 0, 0, 0, 1, 1)$ $(0, 0, 1, 0, 0, -1, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		2	9	$(0, 0, 0, 0, 1, 0, 1)$
		3	4	
10.		1	12	$(0, 1, 0, -1, 1, 0, 1)$
		2	12	$(0, 0, 1, -1, 0, 1, 1)$
		3	4	$(0, 0, 0, 0, 1, 0, 1)$
11.		1	12	$(1, -1, 1, -1, 1, 0, 1)$ $(0, 0, 1, -1, 0, 1, -1)$
		2	8	$(0, 1, 0, -1, 1, 0, 1)$ $(1, -1, 0, 0, 0, 1, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		3	4	$(0, 0, 1, -1, 0, 1, 1)$
		4	2	$(0, 0, 0, 0, 1, 0, 1)$
12.		1	8	$(1, -1, 1, 0, -1, 0, 1)$
		2	3	$(0, -1, 0, 0, 1, 0, 1)$ $(0, 1, 0, 0, -1, 0, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		3	8	$(1, -1, 0, 0, 0, 1, 1)$
		4	6	$(0, 0, 0, 1, -1, 0, 1)$
		6	1	$(0, 0, 0, 0, 1, 0, 1)$
13.		1	8	$(0, 0, 1, -1, 0, 1, -1)$
		2	7	$(0, 1, 0, -1, 1, 0, 1)$ $(0, 0, 0, 1, -1, 0, -1)$
		3	8	$(0, 0, 1, -1, 0, 1, 1)$
		4	2	$(0, 0, 0, 1, -1, 0, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		6	1	$(0, 0, 0, 0, 1, 0, 1)$
14.		2	32	$(0, 0, 0, 0, 1, 0, 1)$
15.		2	16	$(0, 0, 1, -1, 0, 1, 1)$
		4	4	$(0, 0, 0, 0, 1, 0, 1)$
16.		1	10	$(1, -1, 1, -1, 1, 0, 1)$ $(0, 1, 0, 0, -1, 0, 1)$ $(1, -1, 0, 0, 0, 1, -1)$ $(0, 1, 0, -1, 1, 0, -1)$
		2	9	$(0, 1, 0, -1, 1, 0, 1)$ $(1, -1, 0, 0, 0, 1, 1)$ $(0, 0, 1, -1, 0, 1, -1)$
		3	5	$(0, 0, 1, -1, 0, 1, 1)$ $(0, 0, 0, 1, -1, 0, -1)$
(continued on next page)				

Nilpotent orbits in type EVI (continued)				
Orbit	$K_{\mathbb{C}}$ diagram	i	$\dim \mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{p}_{\mathbb{C}}$	Highest weights of $\mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{p}_{\mathbb{C}}$
		4	2	$(0, 0, 0, 1, -1, 0, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		5	1	$(0, 0, 0, 0, 1, 0, 1)$
17.		1	9	$(0, -1, 0, 0, 1, 0, 1)$ $(1, -1, 0, 0, 0, 1, -1)$
		2	14	$(1, -1, 0, 0, 0, 1, 1)$ $(0, 0, 0, 1, -1, 0, -1)$
		3	6	$(0, 0, 0, 1, -1, 0, 1)$
		5	1	$(0, 0, 0, 0, 1, 0, -1)$
		6	1	$(0, 0, 0, 0, 1, 0, 1)$
18.		1	9	$(0, -1, 0, 0, 1, 0, 1)$ $(1, -1, 1, 0, -1, 0, 1)$ $(0, 0, 1, -1, 0, 1, -1)$
		2	6	$(1, -1, 1, -1, 1, 0, 1)$ $(0, 1, 0, 0, -1, 0, 1)$ $(0, 0, 0, 1, -1, 0, -1)$
		3	6	$(0, 1, 0, -1, 1, 0, 1)$ $(1, -1, 0, 0, 0, 1, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		4	4	$(0, 0, 1, -1, 0, 1, 1)$
		5	1	$(0, 0, 0, 1, -1, 0, 1)$
		6	1	$(0, 0, 0, 0, 1, 0, 1)$
19.		2	30	$(0, 0, 0, 1, -1, 0, 1)$
		6	2	$(0, 0, 0, 0, 1, 0, 1)$
20.		2	14	$(0, 1, 0, -1, 1, 0, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		4	8	$(0, 0, 1, -1, 0, 1, 1)$
		6	2	$(0, 0, 0, 0, 1, 0, 1)$
21.		2	15	$(0, 1, 0, 0, -1, 0, 1)$ $(1, -1, 0, 0, 0, 1, 1)$ $(0, 0, 0, 1, -1, 0, -1)$
		4	7	$(0, 0, 0, 1, -1, 0, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		6	1	$(0, 0, 0, 0, 1, 0, 1)$
22.		2	16	$(0, 1, 0, 0, -1, 0, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		6	15	$(0, 0, 0, 1, -1, 0, 1)$
		10	1	$(0, 0, 0, 0, 1, 0, 1)$
23.		2	8	$(0, -1, 0, 0, 1, 0, 1)$ $(0, 1, 0, 0, -1, 0, 1)$ $(0, 0, 0, 1, -1, 0, -1)$
		4	8	$(1, -1, 0, 0, 0, 1, 1)$
		6	7	$(0, 0, 0, 1, -1, 0, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
(continued on next page)				

Nilpotent orbits in type EVI (continued)				
Orbit	K_C diagram	i	$\dim \mathfrak{g}_C^i \cap \mathfrak{p}_C$	Highest weights of $\mathfrak{g}_C^i \cap \mathfrak{p}_C$
24.		10	1	$(0, 0, 0, 0, 1, 0, 1)$
		1	8	$(1, 0, -1, 1, -1, 0, 1)$ $(-1, 0, 0, 1, 0, -1, 1)$ $(0, 1, -1, 1, 0, -1, -1)$
		2	7	$(1, 0, -1, 0, 1, 0, 1)$ $(0, 1, 0, 0, -1, 0, 1)$ $(-1, 0, 0, 0, 0, 1, 1)$ $(0, 0, 1, 0, 0, -1, -1)$ $(0, 1, -1, 0, 0, 1, -1)$
		3	6	$(0, 1, -1, 1, 0, -1, 1)$ $(0, 0, 0, 1, -1, 0, -1)$
		4	4	$(0, 1, -1, 0, 0, 1, 1)$ $(0, 0, 1, 0, 0, -1, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		5	2	$(0, 0, 0, 1, -1, 0, 1)$
		6	1	$(0, 0, 0, 0, 1, 0, 1)$
25.		2	24	$(1, -1, 0, 0, 0, 1, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		6	8	$(0, 0, 0, 0, 1, 0, 1)$
26.		2	12	$(0, 1, 0, -1, 1, 0, 1)$ $(1, -1, 0, 0, 0, 1, 1)$
		4	8	$(0, 0, 1, -1, 0, 1, 1)$
		6	4	$(0, 0, 0, 0, 1, 0, 1)$
27.		1	7	$(-1, 0, 1, -1, 1, 0, 1)$ $(1, 0, -1, 0, 1, 0, 1)$ $(1, -1, 1, 0, -1, 0, 1)$ $(-1, 0, 0, 0, 0, 1, -1)$ $(0, 1, 0, 0, -1, 0, -1)$ $(1, -1, 1, -1, 1, 0, -1)$
		2	7	$(1, -1, 1, -1, 1, 0, 1)$ $(0, 1, 0, 0, -1, 0, 1)$ $(-1, 0, 0, 0, 0, 1, 1)$ $(1, -1, 0, 0, 0, 1, -1)$ $(0, 1, 0, -1, 1, 0, -1)$
		3	5	$(0, 1, 0, -1, 1, 0, 1)$ $(1, -1, 0, 0, 0, 1, 1)$ $(0, 1, -1, 0, 0, 1, -1)$
		4	4	$(0, 1, -1, 0, 0, 1, 1)$ $(0, 0, 1, -1, 0, 1, -1)$
		5	3	$(0, 0, 1, -1, 0, 1, 1)$ $(0, 0, 0, 1, -1, 0, -1)$
		6	2	$(0, 0, 0, 1, -1, 0, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		7	1	$(0, 0, 0, 0, 1, 0, 1)$
28.		1	6	$(1, 0, -1, 1, -1, 0, 1)$ $(0, 1, -1, 1, 0, -1, -1)$
(continued on next page)				

Nilpotent orbits in type EVI (continued)				
Orbit	$K_{\mathbb{C}}$ diagram	i	$\dim \mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{p}_{\mathbb{C}}$	Highest weights of $\mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{p}_{\mathbb{C}}$ $(-1, 1, -1, 0, 1, 0, 1)$ $(0, 1, 0, 0, -1, 0, 1)$ $(0, 0, 1, 0, 0, -1, -1)$ $(0, 1, -1, 0, 0, 1, -1)$
		2	7	$(-1, 0, 0, 1, 0, -1, 1)$ $(0, 0, 0, 1, -1, 0, -1)$
		3	4	$(1, 0, -1, 0, 1, 0, 1)$ $(-1, 0, 0, 0, 0, 1, 1)$
		4	2	$(0, 1, -1, 1, 0, -1, 1)$
		5	4	$(0, 1, -1, 0, 0, 1, 1)$ $(0, 0, 1, 0, 0, -1, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		6	4	$(0, 0, 0, 1, -1, 0, 1)$
		7	2	$(0, 0, 0, 1, -1, 0, 1)$
		10	1	$(0, 0, 0, 0, 1, 0, 1)$
		29.		2
6	8	$(0, 0, 0, 0, 1, 0, 1)$		
30.		1	5	$(0, -1, 0, 0, 1, 0, 1)$ $(1, -1, 1, 0, -1, 0, 1)$
		2	9	$(1, -1, 1, -1, 1, 0, 1)$ $(0, 1, 0, 0, -1, 0, 1)$ $(1, -1, 0, 0, 0, 1, -1)$
		3	5	$(0, 1, 0, -1, 1, 0, 1)$ $(0, 0, 1, -1, 0, 1, -1)$
		5	4	$(1, -1, 0, 0, 0, 1, 1)$
		6	5	$(0, 0, 1, -1, 0, 1, 1)$ $(0, 0, 0, 1, -1, 0, -1)$
		7	1	$(0, 0, 0, 0, 1, 0, -1)$
		9	1	$(0, 0, 0, 1, -1, 0, 1)$
		10	1	$(0, 0, 0, 0, 1, 0, 1)$
31.		2	10	$(1, -1, 1, -1, 1, 0, 1)$ $(0, 1, 0, 0, -1, 0, 1)$ $(1, -1, 0, 0, 0, 1, -1)$ $(0, 1, 0, -1, 1, 0, -1)$
		4	9	$(0, 1, 0, -1, 1, 0, 1)$ $(1, -1, 0, 0, 0, 1, 1)$ $(0, 0, 1, -1, 0, 1, -1)$
		6	5	$(0, 0, 1, -1, 0, 1, 1)$ $(0, 0, 0, 1, -1, 0, -1)$
		8	2	$(0, 0, 0, 1, -1, 0, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		10	1	$(0, 0, 0, 0, 1, 0, 1)$
32.		2	20	$(0, 1, 0, -1, 1, 0, 1)$ $(0, 0, 1, -1, 0, 1, -1)$
		6	10	$(0, 0, 1, -1, 0, 1, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		10	2	$(0, 0, 0, 0, 1, 0, 1)$
(continued on next page)				

Nilpotent orbits in type EVI (continued)				
Orbit	K_C diagram	i	$\dim \mathfrak{g}_C^i \cap \mathfrak{p}_C$	Highest weights of $\mathfrak{g}_C^i \cap \mathfrak{p}_C$
33.		2	7	$(0, -1, 0, 0, 1, 0, 1)$ $(0, 1, 0, 0, -1, 0, 1)$ $(1, -1, 0, 0, 0, 1, -1)$ $(0, 1, 0, -1, 1, 0, -1)$
		4	8	$(1, -1, 1, -1, 1, 0, 1)$ $(0, 0, 1, -1, 0, 1, -1)$
		6	6	$(0, 1, 0, -1, 1, 0, 1)$ $(1, -1, 0, 0, 0, 1, 1)$ $(0, 0, 0, 1, -1, 0, -1)$
		8	4	$(0, 0, 1, -1, 0, 1, 1)$
		10	2	$(0, 0, 0, 1, -1, 0, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		14	1	$(0, 0, 0, 0, 1, 0, 1)$
34.		2	15	$(0, -1, 0, 0, 1, 0, 1)$ $(1, -1, 1, 0, -1, 0, 1)$ $(0, 0, 0, 1, -1, 0, -1)$
		6	10	$(0, 1, 0, 0, -1, 0, 1)$ $(1, -1, 0, 0, 0, 1, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		10	6	$(0, 0, 0, 1, -1, 0, 1)$
		14	1	$(0, 0, 0, 0, 1, 0, 1)$
35.		2	16	$(-1, 0, 0, 0, 0, 1, 1)$ $(0, 1, 0, -1, 1, 0, 1)$
		6	12	$(0, 0, 1, -1, 0, 1, 1)$
		10	4	$(0, 0, 0, 0, 1, 0, 1)$
36.		2	14	$(1, -1, 1, -1, 1, 0, 1)$ $(1, -1, 0, 0, 0, 1, -1)$ $(0, 1, 0, -1, 1, 0, -1)$
		6	10	$(0, 1, 0, -1, 1, 0, 1)$ $(1, -1, 0, 0, 0, 1, 1)$ $(0, 0, 1, -1, 0, 1, -1)$
		10	6	$(0, 0, 1, -1, 0, 1, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		14	2	$(0, 0, 0, 0, 1, 0, 1)$
37.		2	10	$(0, -1, 0, 0, 1, 0, 1)$ $(1, -1, 1, 0, -1, 0, 1)$ $(1, -1, 0, 0, 0, 1, -1)$ $(0, 1, 0, -1, 1, 0, -1)$
		6	9	$(1, -1, 1, -1, 1, 0, 1)$ $(0, 1, 0, 0, -1, 0, 1)$ $(0, 0, 1, -1, 0, 1, -1)$
		10	6	$(0, 1, 0, -1, 1, 0, 1)$ $(1, -1, 0, 0, 0, 1, 1)$ $(0, 0, 0, 1, -1, 0, -1)$
		14	5	$(0, 0, 1, -1, 0, 1, 1)$ $(0, 0, 0, 0, 1, 0, -1)$
		18	1	$(0, 0, 0, 1, -1, 0, 1)$
		22	1	$(0, 0, 0, 0, 1, 0, 1)$

PREHOMOGENEOUS SPACES ASSOCIATED WITH NILPOTENT ORBITS IN TYPE **EVI** 7

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