

Compound	E <sup>0</sup> V	No. of reaction <sup>a</sup>	k <sub>ii</sub> (fit) M <sup>-1</sup> s <sup>-1</sup>	G <sub>ii</sub> <sup>‡</sup> (fit) kcal/mol	Compound	E <sup>0</sup> V	No. of reaction <sup>a</sup>	k <sub>ii</sub> (fit) M <sup>-1</sup> s <sup>-1</sup>	G <sub>ii</sub> <sup>‡</sup> (fit) kcal/mol
<i>Acyclic Hydrazines</i>					<i>Sesquibicyclic (bis(N,N'-bicyclic)) Hydrazines</i>				
<b>nPr<sub>2</sub>N</b> ) <sub>2</sub>	0.29	3[3] <sup>b</sup>	5.3x10 <sup>-4</sup>	21.9[21.8] <sup>b</sup>	<b>22/22</b>	-0.53	2[2]	1.0x10 <sup>2</sup>	14.7[14.7]
<b>Et<sub>2</sub>N</b> ) <sub>2</sub>	0.29	3[3] <sup>b</sup>	6.3x10 <sup>-4</sup>	21.8[21.7] <sup>b</sup>	<b>21/u22</b>	0.06	9[7]	9.9x10 <sup>2</sup>	13.4[13.4]
<b>nHx<sub>2</sub>N</b> ) <sub>2</sub>	0.29	3[3] <sup>b</sup>	1.3x10 <sup>-3</sup>	21.4[21.3] <sup>b</sup>	<b>22/u22</b>	-0.24	5[4]	1.2x10 <sup>3</sup>	13.2[13.1]
<b>iPr<sub>2</sub>N</b> ) <sub>2</sub>	0.26	24[14]	2.5x10 <sup>-3</sup>	21.0[21.0]	<b>22/u23</b>	-0.30	3[3]	2.5x10 <sup>3</sup>	12.8[12.8]
<b>iPr<sub>2</sub>NNMe<sub>2</sub></b>	0.29	3[3] <sup>b</sup>	3.9x10 <sup>-3</sup>	20.7[20.6] <sup>b</sup>	<b>21/21</b>	0.01	4[4]	2.8x10 <sup>3</sup>	12.7[12.7]
<b>iPrMeN</b> ) <sub>2</sub>	0.29	3[3] <sup>b</sup>	1.0x10 <sup>-2</sup>	20.2[20.1] <sup>b</sup>	<i>Aryl-substituted Hydrazines</i>				
<b>cHx<sub>2</sub>N</b> ) <sub>2</sub>	0.26	25[13]	2.5x10 <sup>-2</sup>	19.6[19.7]	<b>22/tBuPh</b>	0.26	8[5] <sup>b</sup>	1.1x10 <sup>3</sup>	13.3[13.4] <sup>b</sup>
<b>nPr<sub>2</sub>NNMe<sub>2</sub></b>	0.30	4	3.9x10 <sup>-2</sup>	19.4	<b>22/Ph<sub>2</sub></b>	0.48	12	5.4x10 <sup>4</sup>	11.0
<b>nPrMeN</b> ) <sub>2</sub>	0.30	3	4.0x10 <sup>-2</sup>	19.4	<b>b<sub>2</sub>Ph<sub>2</sub>N</b> ) <sub>2</sub>	0.61	7	5.7x10 <sup>6</sup>	8.2
<b>nBuMeN</b> ) <sub>2</sub>	0.29	4	4.5x10 <sup>-2</sup>	19.3	<b>tol<sub>2</sub>N</b> ) <sub>2</sub>	0.65	4	6.7x10 <sup>8</sup>	5.4
<b>Me<sub>2</sub>N</b> ) <sub>2</sub>	0.33	3[3] <sup>b</sup>	1.3x10 <sup>0</sup>	17.3[17.2] <sup>b</sup>	<i>2-Tetrazene</i>				
<b>Bz<sub>2</sub>N</b> ) <sub>2</sub>	0.60	3	2.0x10 <sup>-3</sup>	21.1	<b>33)<sub>2</sub>N<sub>4</sub></b>	0.40	9	4.2x10 <sup>5</sup>	9.8
<i>Monocyclic Hydrazines</i>					<b>k33N<sub>2</sub>)<sub>2</sub></b>	0.75	3	9.0x10 <sup>4</sup>	10.7
<b>r7NNMe<sub>2</sub></b>	0.23	3	2.7x10 <sup>-1</sup>	18.2	<i>Ferrocenes</i>				
<b>[u6]Me<sub>2</sub></b>	0.33	3	1.2x10 <sup>0</sup>	17.4	<b>FeCp<sub>2</sub><sup>*</sup></b>	-0.11	8[6]	1.0x10 <sup>7</sup>	7.9[7.9]
<b>r6NNMe<sub>2</sub></b>	0.36	2	3.0x10 <sup>0</sup>	16.8	<b>FeCp<sup>*</sup>Cp</b>	0.12	11[6]	8.0x10 <sup>6</sup>	8.0[7.9]
<b>r5NNMe<sub>2</sub></b>	0.17	3	3.7x10 <sup>0</sup>	16.7	<b>FeCp<sub>2</sub><sup>'</sup></b>	0.28	3[1]	4.8x10 <sup>6</sup>	8.3[7.7]
<b>[6]Me<sub>2</sub></b>	0.23	2	6.1x10 <sup>1</sup>	15.0	<b>FeCp<sub>2</sub></b>	0.395	4[1]	1.4x10 <sup>7</sup>	7.7[8.1]
<i>9-Azabicyclononyl Hydrazines</i>					<i>Aromatic Compounds</i>				
<b>k33NNiPr<sub>2</sub></b>	0.29	5	5.6x10 <sup>-2</sup>	19.2	<b>k33)<sub>2</sub>PD</b>	0.29	19[3]	3.4x10 <sup>7</sup>	7.2[7.1]
<b>k33N</b> ) <sub>2</sub>	0.45	16[7]	4.1x10 <sup>1</sup>	15.2[15.3]	<b>TMPD</b>	0.12	8[4]	1.1x10 <sup>8</sup>	6.5[6.4]
<b>k33NN33</b>	0.22	13[8]	2.4x10 <sup>2</sup>	14.2[14.2]	<b>33)<sub>2</sub>PD</b>	0.02	3[3]	1.6x10 <sup>8</sup>	6.2[6.2]
<b>33N</b> ) <sub>2</sub>	-0.01	11[8]	7.3x10 <sup>2</sup>	13.5[13.6]	<b>DMP</b>	0.14	7[6] <sup>b</sup>	8.2x10 <sup>8</sup>	5.3[5.4] <sup>b</sup>
<b>33NNMe<sub>2</sub></b>	0.11	4	7.5x10 <sup>2</sup>	13.5	<b>TTF</b>	0.33	15[9] <sup>b</sup>	1.4x10 <sup>10</sup>	3.6[4.1] <sup>b</sup>
<i>2,3-Azabicyclo[2.2.2]octyl Hydrazines</i>					<b>iPPT</b>	0.74	1	2.3x10 <sup>9</sup>	4.7
<b>22/tBuiPr</b>	-0.10	3[3] <sup>b</sup>	1.5x10 <sup>1</sup>	15.8[15.9] <sup>b</sup>	<b>An<sub>4</sub>PD</b>	0.46	3	3.6 x10 <sup>8</sup>	5.8
<b>22/tBuMe</b>	0.11	3[3] <sup>b</sup>	4.8x10 <sup>1</sup>	15.2[15.4] <sup>b</sup>	<b>An<sub>3</sub>N</b>	0.56	2	2.4 x10 <sup>10</sup>	3.3
<b>22/iPr<sub>2</sub></b>	0.08	1[1] <sup>b</sup>	8.0x10 <sup>1</sup>	14.9[15.0] <sup>b</sup>	<b>PAP<sub>2</sub>PD</b>	0.49	2	1.6x10 <sup>9</sup>	4.9
<b>21/Me<sub>2</sub></b>	0.20	5	9.9x10 <sup>0</sup>	16.1	<b>MAP<sub>2</sub>PD</b>	0.51	1	1.6x10 <sup>8</sup>	6.3
<i>Alkyl Diamines</i>					<i>Other compounds</i>				
<b>N[333]N</b>	-0.165	3	4.7x10 <sup>1</sup>	15.2	<b>Hy2XY</b>	0.03		5.1x10 <sup>3</sup>	12.4
<b>N[222]N</b>	-0.165	1	1.0x10 <sup>4</sup>	12.0	<b>BP26s</b>	0.185		1.6x10 <sup>4</sup>	11.7

Scheme 1



