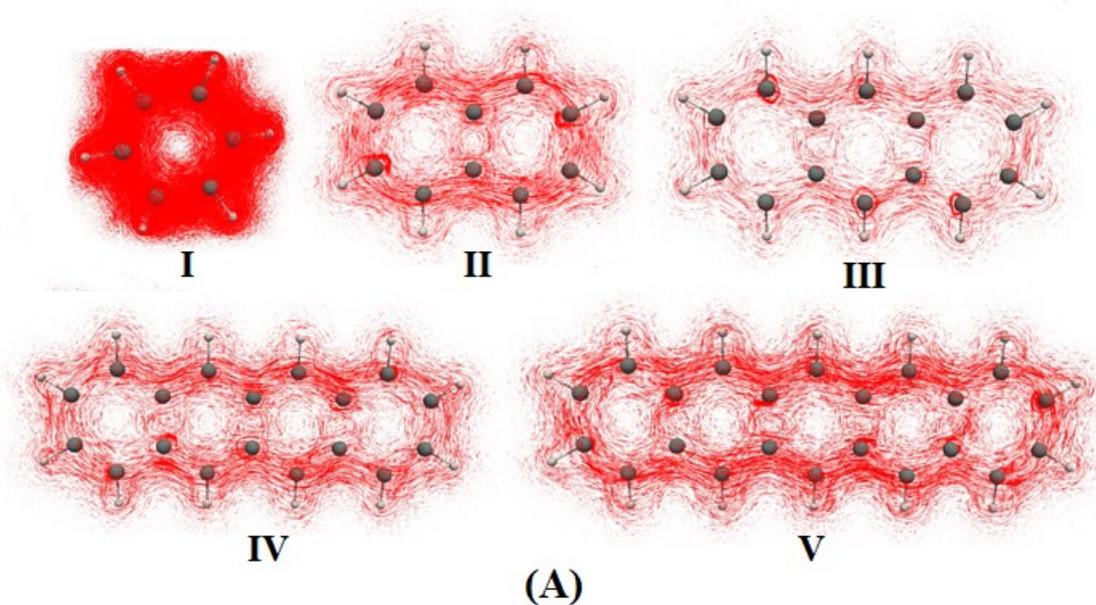# Supplementary Information

Conformational chirality in buckled molecular silicenes: A precursor for chiral magnet

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†Manipal Centre for Natural Sciences, Manipal Academy of Higher Education, Manipal 576104, Karnataka, India, *Email: suranjan.shil@manipal.edu, Phone: +91-820-2923580

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(A)

I(a)   I(b)

II(a)   II(b)

III(a)   III(b)

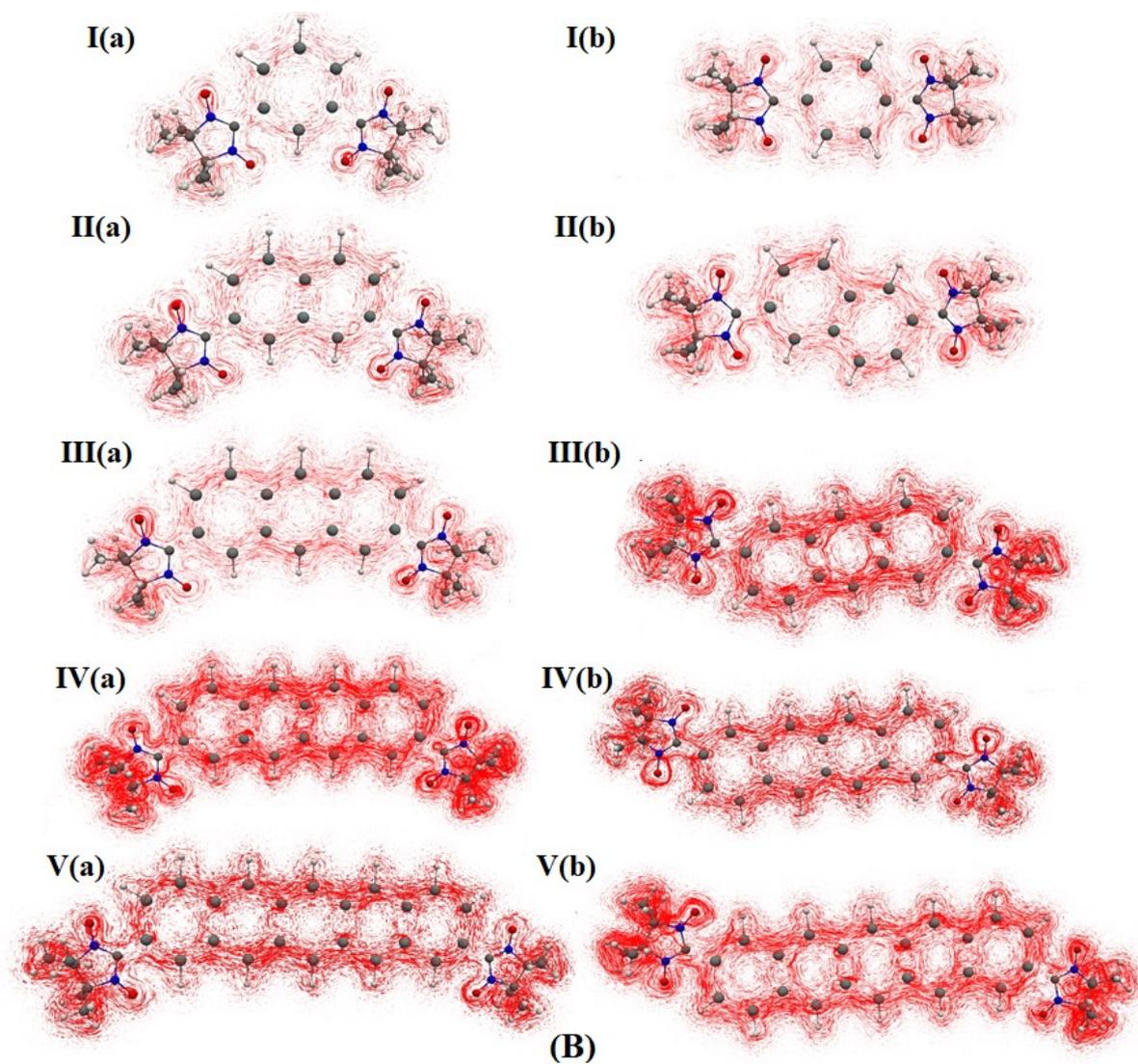IV(a)   IV(b)

V(a)   V(b)

(B)

Fig. S1 Gauge-including magnetically induced current (GIMIC) plots for silicene-based diradicals. (A) Current–density profiles of silicene couplers without radical units. (B) Current–density profiles of complete diradical systems (I–V) with nitronyl nitroxide (NN) radicals.

Diradical	SOMO1	SOMO2(HOMO)	LUMO
I(a)	E_{SOMO1} = -4.07eV	E_{SOMO2} = -4.06eV	E_{LUMO} = -3.03eV
	ΔE_{SS} = 0.01eV	ΔE_{HL} = 1.03eV	
II(a)	E_{SOMO1} = -4.14eV	E_{SOMO2} = -4.14eV	E_{LUMO} = -3.34eV
	ΔE_{SS} = 0.00eV	ΔE_{HL} = 0.8eV	
III(a)	E_{SOMO1} = -4.19eV	E_{SOMO2} = -4.19eV	E_{LUMO} = -3.64eV
	ΔE_{SS} = 0.00eV	ΔE_{HL} = 0.55eV	
IV(a)	E_{SOMO1} = -4.21eV	E_{SOMO2} = -4.20eV	E_{LUMO} = -3.85eV
	ΔE_{SS} = 0.01eV	ΔE_{HL} = 0.35eV	
V(a)	E_{SOMO1} = -4.24eV	E_{SOMO2} = -4.24eV	E_{LUMO} = -3.94eV
	ΔE_{SS} = 0.00eV	ΔE_{HL} = 0.30eV	

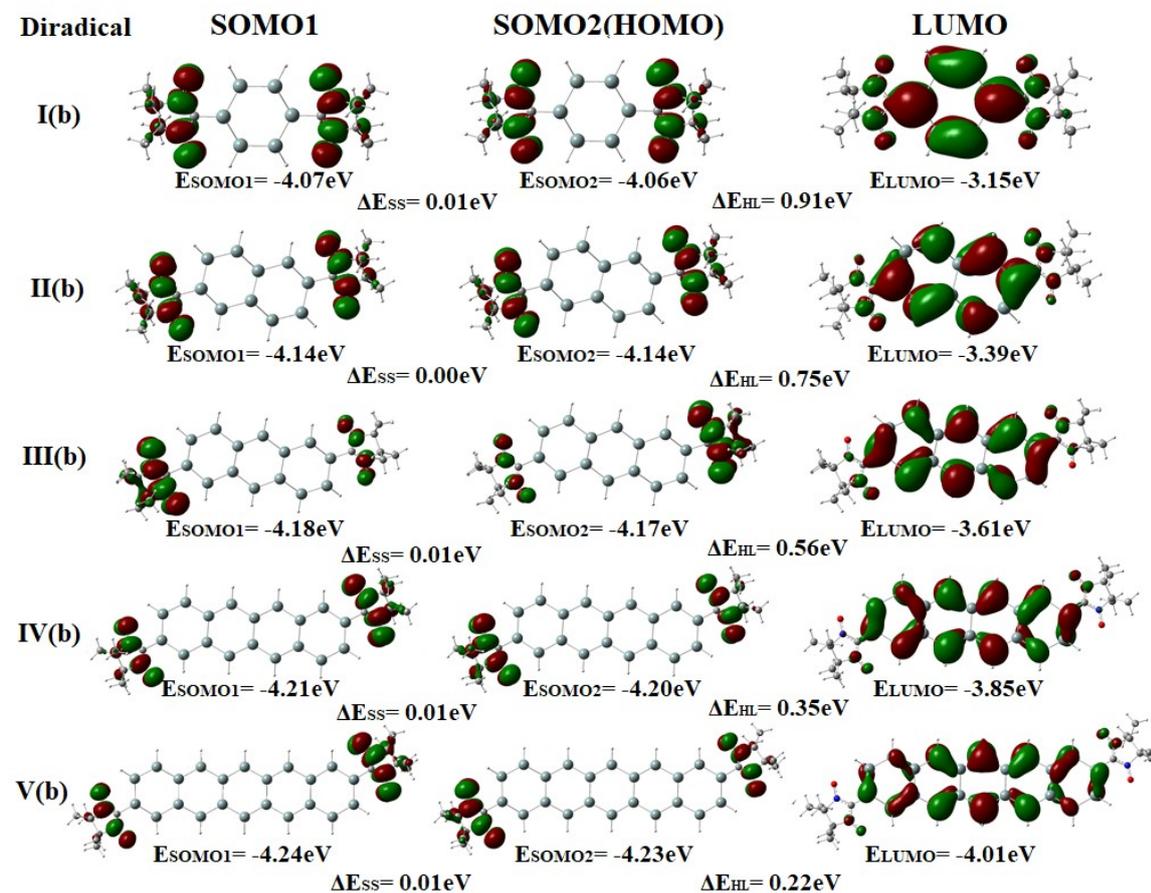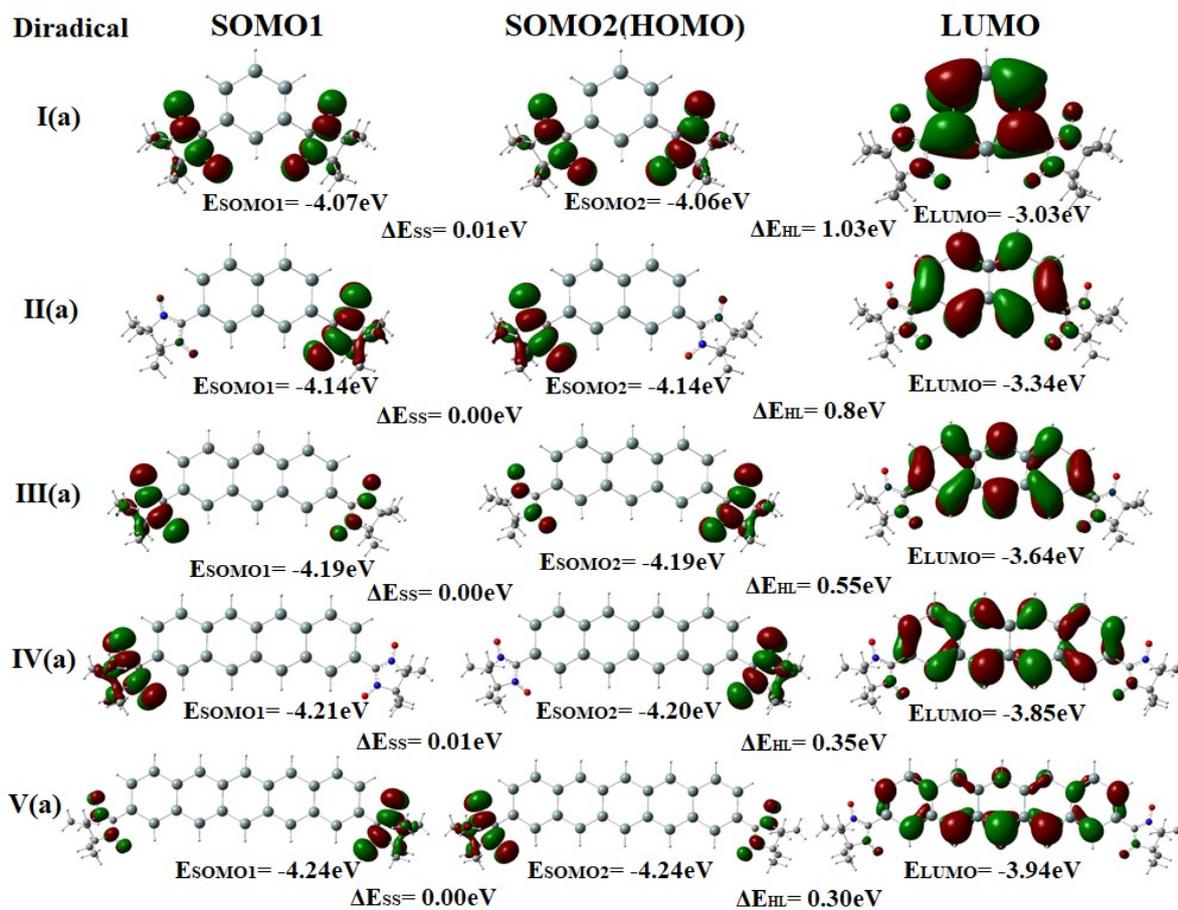| Diradical	SOMO1	SOMO2(HOMO)	LUMO
I(b)	E_{SOMO1} = -4.07eV	E_{SOMO2} = -4.06eV	E_{LUMO} = -3.15eV
	ΔE_{SS} = 0.01eV	ΔE_{HL} = 0.91eV	
II(b)	E_{SOMO1} = -4.14eV	E_{SOMO2} = -4.14eV	E_{LUMO} = -3.39eV
	ΔE_{SS} = 0.00eV	ΔE_{HL} = 0.75eV	
III(b)	E_{SOMO1} = -4.18eV	E_{SOMO2} = -4.17eV	E_{LUMO} = -3.61eV
	ΔE_{SS} = 0.01eV	ΔE_{HL} = 0.56eV	
IV(b)	E_{SOMO1} = -4.21eV	E_{SOMO2} = -4.20eV	E_{LUMO} = -3.85eV
	ΔE_{SS} = 0.01eV	ΔE_{HL} = 0.35eV	
V(b)	E_{SOMO1} = -4.24eV	E_{SOMO2} = -4.23eV	E_{LUMO} = -4.01eV
	ΔE_{SS} = 0.01eV	ΔE_{HL} = 0.22eV	

Fig. S2 Frontier molecular orbitals of silicene-based diradicals in the triplet state computed at the PBE/def2-TZVP level. (a) Odd-bond connectivity and (b) even-bond connectivity. The orbital energies of SOMO1, SOMO2 (HOMO), and LUMO are shown along with ΔE_{SS} (SOMO–SOMO gap) and ΔE_{HL} (HOMO–LUMO gap). The iso value is 0.02.
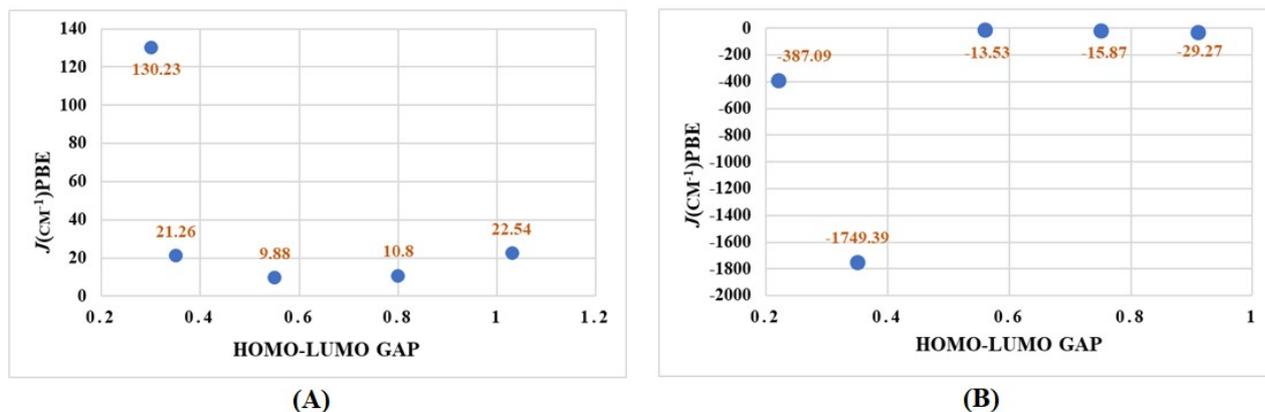

(A)   (B)

Fig. S3 HOMO-LUMO gap vs Magnetic exchange coupling (PBE). (A) Ferromagnetically coupled diradicals [I(a)-V(a)] (B) Antiferromagnetically coupled diradicals [I(b)-V(b)].

Table S1 The zero-field splitting parameters of the complexes were calculated at the PBE/def2-TZVP level of theory.

Sl. No.	Diradicals	
	D (cm^{-1})	E/D
I(a)	-0.0049	0.0283
II(a)	-0.0015	0.0358
III(a)	-0.0006	0.0379
IV(a)	-0.0003	0.0461
V(a)	-0.0002	0.1380

Computational details of Diradical Character:

The diradical character[1] (y_0, i = 0) can be calculated using the occupation numbers of HONO (highest occupied natural orbital) and LUNO (lowest unoccupied natural orbital) using the following equation-

$$y_i = 1 - \frac{2T_i}{1 + T_i^2} \tag{1}$$

where T_i is the overlap integral of the respective orbital pair, which is calculated using the occupation numbers (n) of the natural orbitals of the UHF wavefunction-

$$T_i = \frac{n_{HONO - i} - n_{LUNO + i}}{2} \tag{2}$$

Table S2 Occupation number of natural orbitals at CASSCF (8,8) of the linear silicenes

Silicene	HONO-1	HONO	LUNO	LUNO+1	T	y
I	1.836	1.833	0.168	0.167	0.833	0.017
II	1.895	1.856	0.145	0.105	0.856	0.012
III	1.889	1.836	0.165	0.110	0.835	0.016
IV	1.909	1.813	0.188	0.090	0.812	0.021
V	1.922	1.801	0.198	0.078	0.801	0.024

Table S3 The energies and spin square values in the high spin and broken symmetry state of all the diradicals at the B3LYP level of theory.

Radicals	S2(HS)	S2(BS)	E_HS (Eh)	E_BS (Eh)	Radicals	S2(HS)	S2(BS)	E_HS (Eh)	E_BS (Eh)
I(a)	2.15	1.12	-2806.53353	-2806.53316	I(b)	2.11	1.16	-2806.53309	-2806.53366
II(a)	2.17	1.13	-3965.56824	-3965.56795	II(b)	2.12	1.17	-3965.56806	-3965.56843
III(a)	2.27	1.14	-5124.60031	-5124.59987	III(b)	3.14	1.25	-5124.56967	-5124.59782
IV(a)	2.65	1.16	-6283.63172	-6283.63034	IV(b)	2.34	1.61	-6283.63048	-6283.63162
V(a)	3.20	2.05	-7442.65322	-7442.66146	V(b)	3.19	2.16	-7442.65082	-7442.66056

Table S4 The energies and spin square values in the high spin and broken symmetry state of all the diradicals at the BP86 level of theory.

Radicals	S2(HS)	S2(BS)	E_HS (Eh)	E_BS (Eh)	Radicals	S2(HS)	S2(BS)	E_HS (Eh)	E_BS (Eh)
I(a)	2.04	1.03	-2807.61124	-2807.61114	I(b)	2.03	1.04	-2807.61084	-2807.61099
II(a)	2.04	1.03	-3966.92716	-3966.92710	II(b)	2.03	1.04	-3966.92727	-3966.92734
III(a)	2.05	1.04	-5126.24095	-5126.24089	III(b)	2.03	1.05	-5126.23766	-5126.23771
IV(a)	2.10	1.04	-6285.55372	-6285.55360	IV(b)	2.04	1.09	-6285.55332	-6285.55342
V(a)	3.03	1.51	-7444.85881	-7444.86487	V(b)	3.04	1.60	-7444.85584	-7444.86251

Table S5 The energies and spin square values in the high spin and broken symmetry state of all the diradicals at the M06 level of theory.

Radicals	S2(HS)	S2(BS)	E_HS (Eh)	E_BS (Eh)	Radicals	S2(HS)	S2(BS)	E_HS (Eh)	E_BS (Eh)
I(a)	2.15	1.11	-2806.60113	-2806.60078	I(b)	2.11	1.15	-2806.60043	-2806.60093
II(a)	2.14	1.12	-3965.73194	-3965.73179	II(b)	2.12	1.17	-3965.73195	-3965.73231
III(a)	2.30	1.13	-5124.86079	-5124.86027	III(b)	3.15	1.29	-5124.82822	-5124.85626
IV(a)	2.70	1.16	-6283.98826	-6283.98657	IV(b)	3.18	1.67	-6283.96997	-6283.98778
V(a)	3.21	2.11	-7443.10635	-7443.11496	V(b)	3.20	2.21	-7443.10253	-7443.11274

Table S6 The energies and spin square values in the high spin and broken symmetry state of all the diradicals at the M06L level of theory.

Radicals	S2(HS)	S2(BS)	E_HS (Eh)	E_BS (Eh)	Radicals	S2(HS)	S2(BS)	E_HS (Eh)	E_BS (Eh)
I(a)	2.09	1.06	-2807.22570	-2807.22547	I(b)	2.06	1.09	-2807.22508	-2807.22540
II(a)	2.11	1.07	-3966.39760	-3966.39740	II(b)	2.06	1.11	-3966.39745	-3966.39769

III(a)	2.21	1.08	-5125.56694	-5125.56655	III(b)	3.07	1.17	-5125.54025	-5125.56557
IV(a)	3.10	1.41	-6284.72091	-6284.73474	IV(b)	3.10	1.54	-6284.72006	-6284.73531
V(a)	3.08	1.99	-7443.90479	-7443.90364	V(b)	3.12	2.05	-7443.89523	-7443.90329

Table S7 The energies and spin square values in the high spin and broken symmetry state of all the diradicals at the TPss level of theory.

Radicals	S2(HS)	S2(BS)	E_HS (Eh)	E_BS (Eh)	Radicals	S2(HS)	S2(BS)	E_HS (Eh)	E_BS (Eh)
I(a)	2.05	1.05	-2807.70701	-2807.70695	I(b)	2.05	1.06	-2807.70670	-2807.70690
II(a)	2.06	1.05	-3966.99121	-3966.99112	II(b)	2.05	1.06	-3966.99128	-3966.99140
III(a)	2.08	1.05	-5126.27294	-5126.27282	III(b)	2.05	1.08	-5126.27065	-5126.27077
IV(a)	2.26	1.06	-6285.55362	-6285.55328	IV(b)	3.04	1.22	-6285.53854	-6285.55347
V(a)	3.08	1.75	-7444.82693	-7444.83312	V(b)	2.74	1.82	-7444.83097	-7444.83181

Table S8 The energies and spin square values in the high spin and broken symmetry state of all the diradicals at the CAM-B3LYP level of theory.

Radicals	S2(HS)	S2(BS)	E_HS (Eh)	E_BS (Eh)	Radicals	S2(HS)	S2(BS)	E_HS (Eh)	E_BS (Eh)
I(a)	2.49	1.22	-2806.87764	-2806.87558	I(b)	2.21	1.48	-2806.87553	-2806.87779
II(a)	2.84	1.25	-3966.06157	-3966.05827	II(b)	2.25	1.83	-3966.05832	-3966.06171
III(a)	3.38	1.38	-5125.24406	-5125.23728	III(b)	3.01	2.29	-5125.23871	-5125.24263
IV(a)	3.94	1.87	-6284.42678	-6284.41507	IV(b)	3.69	2.91	-6284.42234	-6284.42674
V(a)	4.48	3.28	-7443.60946	-7443.60517	V(b)	4.22	3.42	-7443.60355	-7443.60779

Table S9 The energies and spin square values in the high spin and broken symmetry state of all the diradicals at the PBE level of theory.

Radicals	S2(HS)	S2(BS)	E_HS (Eh)	E_BS (Eh)	Radicals	S2(HS)	S2(BS)	E_HS (Eh)	E_BS (Eh)
I(a)	2.03	1.03	-2805.26015	-2805.26005	I(b)	2.03	1.04	-2805.25972	-2805.25985
II(a)	2.03	1.03	-3963.87710	-3963.87705	II(b)	2.03	1.04	-3963.87722	-3963.87729
III(a)	2.04	1.03	-5122.49188	-5122.49184	III(b)	2.03	1.04	-5122.48879	-5122.48886
IV(a)	2.07	1.03	-6281.10563	-6281.10553	IV(b)	2.97	1.08	-6281.09027	-6281.10536
V(a)	2.55	1.04	-7439.71821	-7439.71731	V(b)	2.04	1.54	-7439.71453	-7439.71540

Table S10 Energies of both the conformers of all the five silicene couplers and their diradicals

Silicene Coupler	Energy		Radicals	Energy		Radicals	Energy	
	Radical	Mirror image		Radical	Mirror image		Radical	Mirror image
I	-1739.58829	-1739.58829	I(a)	-2805.21954	-2805.21954	I(b)	-2805.22256	-2805.22256
II	-2898.22426	-2898.22426	II(a)	-3963.84453	-3963.84453	II(b)	-3963.84603	-3963.84603
III	-4056.85288	-4056.85288	III(a)	-5122.46776	-5122.46776	III(b)	-5122.46410	-5122.46410
IV	-5215.47537	-5215.47537	IV(a)	-6281.08755	-6281.08755	IV(b)	-6281.07599	-6281.07599
V	-6374.09447	-6374.09447	V(a)	-7439.70180	-7439.70180	V(b)	-7439.70017	-7439.70017

Optimized coordinates

For Coupler

I.

1	-4.967026000	-0.808142000	-1.215692000
1	-2.336563000	5.661931000	1.009490000
1	-5.888007000	4.886564000	1.439006000
14	-5.762746000	1.904505000	0.284810000
14	-5.032234000	3.986546000	0.626257000
14	-2.823436000	4.282541000	0.758153000
14	-1.541073000	2.950399000	-0.493118000
14	-2.271705000	0.868499000	-0.835699000
14	-4.480582000	0.571676000	-0.965878000
1	-1.416443000	-0.030647000	-1.649989000
1	-0.072588000	3.156140000	-0.425767000
1	-7.231183000	1.697820000	0.219770000

II.

1	-2.448727000	-1.456938000	-1.545243000
1	-6.163153000	-0.625457000	-0.796029000
1	-4.227934000	6.140708000	1.291107000
1	-7.744562000	5.106112000	1.420514000
1	-0.513422000	5.309122000	0.542277000
14	-7.278332000	2.082586000	0.457489000
14	-6.730729000	4.242865000	0.764986000
14	-4.590358000	4.714339000	1.095560000
14	-3.061152000	3.434372000	0.030813000
14	-3.615450000	1.249428000	-0.285078000
14	-5.809341000	0.803011000	-0.599912000
14	-2.086322000	-0.030523000	-1.349965000
14	0.054073000	0.441050000	-1.019701000
14	0.601606000	2.601273000	-0.711761000

14	-0.867297000	3.880720000	0.345825000
1	1.067830000	-0.421903000	-1.675728000
1	-8.720088000	1.770471000	0.294509000
1	2.043378000	2.913668000	-0.549520000

III.

1	2.382020000	0.652805000	0.353716000
1	-1.431045000	-0.023646000	0.326910000
1	-5.240551000	-0.733962000	0.327816000
1	-6.563914000	6.500338000	0.333613000
1	-9.344746000	4.106632000	0.350142000
1	-2.744158000	7.183560000	0.364947000
1	4.519321000	6.628082000	0.398354000
1	1.073839000	7.889838000	0.359065000
14	-7.552651000	1.447529000	0.494253000
14	-7.949519000	3.642104000	0.149254000
14	-6.304371000	5.057920000	0.569885000
14	-4.186153000	4.347790000	0.177576000
14	-3.783658000	2.120965000	0.496908000
14	-5.509454000	0.706441000	0.089369000
14	-1.693195000	1.417287000	0.076853000
14	0.012146000	2.812203000	0.510326000
14	-0.392749000	5.038558000	0.190833000
14	-2.482139000	5.743178000	0.618137000
14	1.337229000	6.448405000	0.597126000
14	3.378143000	5.702522000	0.188847000
14	3.777154000	3.508337000	0.534020000
14	2.128121000	2.096174000	0.116818000
1	-8.692396000	0.520693000	0.282999000
1	5.171346000	3.042300000	0.329824000

IV.

1	-0.945891000	-1.384188000	-1.881223000

1	-4.768803000	-0.724519000	-1.847466000
1	-8.575588000	-0.063523000	-1.861809000
1	-7.460309000	6.339093000	1.588942000
1	-10.860149000	5.267674000	0.723856000
1	-3.634314000	5.692642000	1.514956000
1	0.188949000	5.033143000	1.480984000
14	-10.027521000	2.563505000	-0.798427000
14	-9.710692000	4.343615000	0.557151000
14	-7.669757000	5.174736000	0.692507000
14	-5.929854000	3.726414000	0.516877000
14	-6.256644000	1.895541000	-0.819163000
14	-8.379169000	1.103062000	-0.964950000
14	-4.560706000	0.438342000	-0.946618000
14	-2.453159000	1.231338000	-0.841961000
14	-2.127201000	3.077355000	0.475445000
14	-3.842431000	4.535413000	0.606638000
14	-0.019781000	3.870010000	0.580676000
14	1.676034000	2.412897000	0.452780000
14	1.349414000	0.581909000	-0.882837000
14	-0.738126000	-0.226813000	-0.973017000
14	3.798317000	3.205480000	0.600010000
14	5.446903000	1.745730000	0.433321000
14	3.089612000	-0.865906000	-1.058355000
14	5.130255000	-0.034457000	-0.922070000
1	3.993818000	4.372248000	1.496806000
1	2.880659000	-2.030398000	-1.954701000
1	6.280035000	-0.958130000	-1.088633000
1	-11.420713000	2.070482000	-0.939865000
1	6.840032000	2.238864000	0.574754000

V.

1	-2.055912000	-1.240685000	-0.542270000
1	-5.899655000	-0.747589000	-0.443797000
1	-9.740735000	-0.275201000	-0.320557000

1	-8.785502000	6.858054000	1.228241000
1	-12.168347000	5.457166000	0.922689000
1	-4.949357000	6.335465000	1.206885000
1	-1.109770000	5.834384000	1.164692000
14	-11.270357000	2.413025000	0.427938000
14	-10.977565000	4.651445000	0.555552000
14	-8.984704000	5.389067000	1.153745000
14	-7.177406000	4.173365000	0.505887000
14	-7.475394000	1.907569000	0.327576000
14	-9.556284000	1.195578000	-0.244490000
14	-5.709791000	0.724247000	-0.372625000
14	-3.647156000	1.411971000	0.236369000
14	-3.347922000	3.676773000	0.454916000
14	-5.144014000	4.864392000	1.134061000
14	-1.300577000	4.363190000	1.083533000
14	0.481461000	3.182114000	0.385772000
14	0.181992000	0.917795000	0.165850000
14	-1.865336000	0.230502000	-0.460687000
14	2.544581000	3.869897000	0.993345000
14	4.308514000	2.688568000	0.287096000
14	1.978148000	-0.270409000	-0.511940000
14	4.012345000	0.422577000	0.109793000
1	2.732855000	5.341907000	1.064632000
1	1.783214000	-1.741226000	-0.587109000
14	6.392997000	3.396321000	0.850732000
1	6.583053000	4.866570000	0.923894000
14	8.102457000	2.177050000	0.169207000
14	7.810721000	-0.061640000	0.043332000
14	5.814509000	-0.796414000	-0.545790000
1	5.608439000	-2.264404000	-0.620370000
1	8.999719000	-0.866730000	-0.331127000
1	-12.640553000	1.939541000	0.110868000
1	9.473439000	2.652150000	0.480231000

For diradicals

I(a).

1	0.020160000	4.284251000	3.413605000
1	3.182318000	2.747894000	2.550860000
1	0.005817000	-2.184923000	-0.090763000
1	-3.148452000	2.719432000	2.625949000
14	0.019939000	2.921906000	2.823957000
14	-1.919592000	2.168342000	2.022625000
14	-1.871170000	0.083487000	1.202383000
14	0.005692000	-0.769659000	0.302465000
14	1.895342000	0.098008000	1.160991000
14	1.945825000	2.186177000	1.973490000
6	5.815097000	-0.848411000	0.054846000
6	5.004711000	-1.735587000	-0.951302000
6	-5.803990000	-0.896533000	0.174068000
6	-5.006749000	-1.747550000	-0.872707000
6	-3.476924000	-0.541205000	0.484396000
6	3.491440000	-0.517642000	0.414164000
7	-3.601247000	-1.607205000	-0.337851000
7	-4.702996000	-0.021392000	0.722798000
7	3.610521000	-1.600147000	-0.387137000
7	4.715471000	0.023458000	0.611251000
8	-4.950783000	0.997544000	1.435355000
8	-2.649663000	-2.326774000	-0.765745000
8	4.966457000	1.060368000	1.296324000
6	-4.984579000	-1.145289000	-2.284870000
1	-4.254345000	-1.688471000	-2.884293000
1	-5.961004000	-1.237794000	-2.761062000
1	-4.700861000	-0.092772000	-2.273351000
6	-6.917123000	-0.026265000	-0.397248000
1	-7.702185000	-0.656781000	-0.818246000

1	-7.348528000	0.575293000	0.401105000
1	-6.560651000	0.650667000	-1.170807000
6	-5.382819000	-3.222921000	-0.945683000
1	-6.406182000	-3.328727000	-1.310139000
1	-4.714771000	-3.729527000	-1.640302000
1	-5.302807000	-3.720258000	0.018672000
6	-6.337091000	-1.706515000	1.364587000
1	-6.703345000	-1.014763000	2.122917000
1	-7.161453000	-2.349999000	1.056223000
1	-5.561719000	-2.326890000	1.814619000
6	5.398808000	-3.207403000	-0.996410000
1	4.722906000	-3.739647000	-1.663714000
1	6.415399000	-3.309139000	-1.380429000
1	5.346283000	-3.681858000	-0.018712000
6	6.391191000	-1.621386000	1.250029000
1	7.218413000	-2.258346000	0.935880000
1	6.764301000	-0.905578000	1.982166000
1	5.638342000	-2.243716000	1.734340000
6	6.900311000	0.023706000	-0.565661000
1	7.342446000	0.652015000	0.205796000
1	7.684131000	-0.605934000	-0.990264000
1	6.514286000	0.674908000	-1.346974000
6	4.942348000	-1.169898000	-2.377340000
1	5.909455000	-1.261422000	-2.872275000
1	4.206897000	-1.738319000	-2.946161000
1	4.644098000	-0.121376000	-2.386351000
8	2.658465000	-2.340414000	-0.776985000

I(b).

6	2.668347000	2.664663000	-0.214679000
6	2.411192000	3.830745000	0.801129000
6	-9.972409000	2.187987000	0.016359000
6	-9.717545000	1.013067000	-0.989734000
6	-7.634900000	1.825304000	-0.190483000

6	0.330417000	3.026741000	-0.011331000
7	-8.243308000	0.768043000	-0.772242000
7	-8.571355000	2.724868000	0.185946000
7	0.937639000	4.078357000	0.581749000
7	1.267518000	2.130154000	-0.393263000
8	-8.346588000	3.839726000	0.745817000
8	-7.661281000	-0.255131000	-1.242876000
8	1.043853000	1.020602000	-0.963977000
6	-9.868845000	1.405895000	-2.466071000
1	-9.483056000	0.595446000	-3.083991000
1	-10.917597000	1.564388000	-2.718426000
1	-9.312327000	2.312082000	-2.706077000
6	-10.889330000	3.296987000	-0.487284000
1	-11.897819000	2.906790000	-0.634919000
1	-10.932745000	4.092803000	0.254445000
1	-10.541770000	3.730189000	-1.422721000
6	-10.494985000	-0.269369000	-0.714983000
1	-11.563271000	-0.094169000	-0.853377000
1	-10.177596000	-1.038270000	-1.417414000
1	-10.330234000	-0.646871000	0.291910000
6	-10.424784000	1.734090000	1.411696000
1	-10.389515000	2.589800000	2.085633000
1	-11.447821000	1.358187000	1.383419000
1	-9.778788000	0.954561000	1.815977000
6	3.189771000	5.115329000	0.539939000
1	2.870412000	5.878157000	1.248073000
1	4.257591000	4.938654000	0.680073000
1	3.028139000	5.501610000	-0.464120000
6	3.125372000	3.130676000	-1.604508000
1	4.148441000	3.505900000	-1.569569000
1	3.091967000	2.281004000	-2.286120000
1	2.480965000	3.914013000	-2.003919000
6	3.582979000	1.550569000	0.281860000
1	3.628315000	0.761488000	-0.466919000

1	4.591228000	1.938751000	0.436290000
1	3.232088000	1.109113000	1.212173000
6	2.558215000	3.424760000	2.274306000
1	3.606174000	3.263427000	2.528136000
1	2.171188000	4.229939000	2.898323000
1	2.000512000	2.516821000	2.504742000
8	0.354750000	5.097517000	1.060026000
1	-4.947137000	-0.783602000	-1.358310000
1	-2.356358000	5.636802000	1.152042000
1	-5.882124000	4.985339000	1.324333000
14	-5.795042000	1.993641000	0.083077000
14	-5.032132000	4.041860000	0.571427000
14	-2.827190000	4.271571000	0.845770000
14	-1.508713000	2.861202000	-0.291099000
14	-2.271542000	0.813434000	-0.780908000
14	-4.477105000	0.581913000	-1.052120000
1	-1.422310000	-0.129842000	-1.534946000

II(a).

6	7.299703000	0.431559000	0.114011000
6	6.558995000	-0.708526000	-0.666242000
6	-8.078131000	-0.915982000	0.069031000
6	-7.154637000	-1.958625000	-0.651382000
6	-5.807728000	-0.282172000	0.355144000
6	4.957887000	0.646794000	0.443942000
7	-5.798876000	-1.541693000	-0.133450000
7	-7.081810000	0.173142000	0.386510000
7	5.161412000	-0.568002000	-0.111663000
7	6.134775000	1.312042000	0.499376000
8	-7.448514000	1.324022000	0.771669000
8	-4.768852000	-2.260551000	-0.303979000
8	6.301604000	2.487229000	0.944664000
6	-7.095474000	-1.798234000	-2.177044000
1	-6.290808000	-2.424046000	-2.562253000

1	-8.032002000	-2.117285000	-2.634965000
1	-6.896819000	-0.767783000	-2.472272000
6	-9.210416000	-0.347489000	-0.778326000
1	-9.918256000	-1.139059000	-1.030287000
1	-9.737187000	0.417714000	-0.210490000
1	-8.851597000	0.106570000	-1.699506000
6	-7.410629000	-3.419203000	-0.296626000
1	-8.398401000	-3.720363000	-0.649799000
1	-6.664600000	-4.043626000	-0.785506000
1	-7.351687000	-3.603084000	0.774014000
6	-8.628545000	-1.392382000	1.421082000
1	-9.086677000	-0.544077000	1.929164000
1	-9.387232000	-2.163037000	1.282131000
1	-7.842365000	-1.790069000	2.063139000
6	7.072761000	-2.120871000	-0.412164000
1	6.440469000	-2.833686000	-0.939066000
1	8.092416000	-2.219414000	-0.788745000
1	7.063911000	-2.382580000	0.643829000
6	7.941724000	-0.024250000	1.432210000
1	8.816927000	-0.645999000	1.242067000
1	8.258487000	0.857352000	1.989143000
1	7.243063000	-0.586663000	2.051892000
6	8.305642000	1.237991000	-0.698809000
1	8.696888000	2.047082000	-0.084321000
1	9.137688000	0.599484000	-1.000739000
1	7.862617000	1.678558000	-1.589558000
6	6.442043000	-0.460552000	-2.176908000
1	7.411309000	-0.571393000	-2.663533000
1	5.756384000	-1.194850000	-2.598990000
1	6.053771000	0.534180000	-2.396403000
8	4.268862000	-1.444411000	-0.317850000
1	1.580771000	-1.346096000	0.275386000
1	-2.137101000	-1.663037000	0.236435000
1	-2.837769000	5.420812000	2.092456000

1	-5.836050000	3.421204000	1.635727000
1	1.039898000	5.739042000	2.173760000
1	4.339745000	4.267032000	1.814711000
14	-4.298204000	0.642802000	0.940421000
14	-2.322924000	-0.203382000	0.354786000
14	-0.492746000	0.947062000	1.020023000
14	-0.685474000	3.195746000	1.273719000
14	-2.716621000	3.952688000	1.905202000
14	-4.528740000	2.872185000	1.223925000
14	1.520269000	0.124147000	0.395794000
14	3.311297000	1.277989000	1.051030000
14	3.156462000	3.512269000	1.355938000
14	1.169308000	4.272589000	1.979193000

II(b).

6	4.780648000	2.721103000	-0.158509000
6	4.341139000	3.877813000	0.804379000
6	-11.457090000	1.962442000	-0.092453000
6	-11.018536000	0.803665000	-1.053255000
6	-9.087046000	1.817927000	-0.118186000
6	2.410506000	2.864962000	-0.134251000
7	-9.549189000	0.701051000	-0.720788000
7	-10.128997000	2.631697000	0.168692000
7	2.871823000	3.980403000	0.471509000
7	3.452966000	2.052077000	-0.422041000
8	-10.050510000	3.770898000	0.719269000
8	-8.838314000	-0.266747000	-1.127533000
8	3.375129000	0.914160000	-0.975378000
6	-11.093279000	1.162505000	-2.544009000
1	-10.594617000	0.381019000	-3.116801000
1	-12.130608000	1.225060000	-2.873487000
1	-10.601347000	2.110989000	-2.760428000
6	-12.433018000	2.973098000	-0.684469000
1	-13.384770000	2.486255000	-0.904037000

1	-12.609930000	3.767357000	0.038771000
1	-12.055269000	3.429237000	-1.597074000
6	-11.694456000	-0.541575000	-0.812000000
1	-12.761281000	-0.464976000	-1.028961000
1	-11.259973000	-1.286360000	-1.476795000
1	-11.569890000	-0.891116000	0.210651000
6	-11.968789000	1.485968000	1.274786000
1	-12.058769000	2.349814000	1.932982000
1	-12.949619000	1.019484000	1.179848000
1	-11.287582000	0.772725000	1.739215000
6	5.016413000	5.223904000	0.565951000
1	4.581088000	5.967156000	1.231917000
1	6.083190000	5.147588000	0.783349000
1	4.892173000	5.575313000	-0.456099000
6	5.293192000	3.200602000	-1.524384000
1	6.273656000	3.667486000	-1.427674000
1	5.384186000	2.338165000	-2.184277000
1	4.611921000	3.914398000	-1.987860000
6	5.756443000	1.709427000	0.432022000
1	5.933686000	0.916606000	-0.292714000
1	6.708063000	2.195919000	0.652915000
1	5.378367000	1.251464000	1.343568000
6	4.415413000	3.516253000	2.294502000
1	5.452634000	3.453392000	2.624263000
1	3.916298000	4.296538000	2.868535000
1	3.923690000	2.567237000	2.509010000
8	2.160388000	4.947180000	0.879738000
1	-2.459996000	-1.429586000	-1.592147000
1	-6.122744000	-0.625825000	-0.906152000
1	-4.217679000	6.114237000	1.337361000
1	-7.728710000	5.189130000	1.351123000
1	-0.555062000	5.310070000	0.652867000
14	-7.291866000	2.152010000	0.268655000
14	-6.749775000	4.305191000	0.687704000

14	-4.602929000	4.709029000	1.052515000
14	-3.038043000	3.421464000	0.057204000
14	-3.637962000	1.262338000	-0.310260000
14	-5.816553000	0.806803000	-0.721189000
14	-2.073405000	-0.024692000	-1.307405000
14	0.073791000	0.377714000	-0.940517000
14	0.615671000	2.531913000	-0.524151000
14	-0.859085000	3.876860000	0.468540000
1	1.051812000	-0.506405000	-1.605163000

III(a).

6	7.864454000	2.800105000	-0.026315000
6	7.266423000	1.459844000	-0.577142000
6	-11.125445000	-0.645130000	-0.136304000
6	-10.091661000	-1.673801000	-0.710389000
6	-8.941704000	0.277181000	-0.000282000
6	5.493837000	2.897534000	0.076476000
7	-8.791905000	-1.035865000	-0.281038000
7	-10.259997000	0.586265000	-0.015695000
7	5.818615000	1.610370000	-0.174378000
7	6.619306000	3.650252000	0.060961000
8	-10.754099000	1.735640000	0.187404000
8	-7.687566000	-1.654518000	-0.350393000
8	6.674969000	4.903628000	0.240964000
6	-10.050458000	-1.732633000	-2.244034000
1	-9.179297000	-2.312551000	-2.547954000
1	-10.943812000	-2.220029000	-2.635157000
1	-9.971822000	-0.740761000	-2.689588000
6	-12.323446000	-0.346977000	-1.030555000
1	-12.936396000	-1.243309000	-1.139720000
1	-12.929734000	0.431179000	-0.570057000
1	-12.029600000	-0.001757000	-2.019542000
6	-10.183968000	-3.085651000	-0.143089000
1	-11.134395000	-3.538656000	-0.430325000

1	-9.376482000	-3.690805000	-0.551915000
1	-10.101070000	-3.105178000	0.941503000
6	-11.607325000	-0.966649000	1.285962000
1	-12.152377000	-0.105510000	1.672165000
1	-12.278263000	-1.826073000	1.282148000
1	-10.777277000	-1.176289000	1.960889000
6	7.838394000	0.184770000	0.031964000
1	7.297826000	-0.674829000	-0.360913000
1	8.890926000	0.083664000	-0.238299000
1	7.753020000	0.166732000	1.116398000
6	8.412153000	2.701740000	1.404824000
1	9.339062000	2.128066000	1.426089000
1	8.619809000	3.707752000	1.768803000
1	7.698284000	2.234048000	2.083116000
6	8.890130000	3.480952000	-0.925270000
1	9.173076000	4.436741000	-0.487467000
1	9.783503000	2.859335000	-1.005779000
1	8.505759000	3.671307000	-1.925043000
6	7.272607000	1.351683000	-2.108452000
1	8.286457000	1.202406000	-2.480521000
1	6.667840000	0.493296000	-2.400038000
1	6.855003000	2.240249000	-2.582278000
8	5.002510000	0.642291000	-0.237085000
1	2.305782000	0.617970000	0.281438000
1	-1.431700000	-0.013405000	0.214950000
1	-5.158390000	-0.739297000	0.227196000
1	-6.573080000	6.487281000	0.387914000
1	-9.350292000	4.148781000	0.403447000
1	-2.746171000	7.194305000	0.320998000
1	4.509997000	6.669137000	0.434353000
1	1.088137000	7.881569000	0.391336000
14	-7.541355000	1.444818000	0.386230000
14	-7.983887000	3.653475000	0.142656000
14	-6.305082000	5.035618000	0.547337000

14	-4.186701000	4.358243000	0.117641000
14	-3.797280000	2.126941000	0.400118000
14	-5.491817000	0.676747000	-0.026709000
14	-1.695966000	1.435181000	0.022729000
14	0.022387000	2.824194000	0.416051000
14	-0.395899000	5.049204000	0.126537000
14	-2.483515000	5.752700000	0.567816000
14	1.346898000	6.429476000	0.561722000
14	3.406642000	5.723603000	0.171783000
14	3.767480000	3.502292000	0.433344000
14	2.122848000	2.059388000	0.018319000

III(b).

6	-9.459094000	-1.291106000	0.662100000
6	-9.967874000	0.122926000	0.213441000
6	9.884270000	-0.207096000	0.606375000
6	9.569713000	1.296262000	0.289045000
6	7.612747000	-0.003322000	-0.050763000
6	-7.611792000	0.011887000	-0.059658000
7	8.065960000	1.250120000	0.162864000
7	8.638829000	-0.875764000	0.075481000
7	-8.658734000	0.860409000	0.064977000
7	-8.035563000	-1.250796000	0.160153000
8	8.560639000	-2.134214000	-0.059484000
8	7.362072000	2.304402000	0.133600000
8	-7.307642000	-2.288758000	0.127036000
6	10.095948000	1.774694000	-1.071838000
1	9.670392000	2.754975000	-1.284930000
1	11.182293000	1.864818000	-1.055551000
1	9.814645000	1.097519000	-1.878480000
6	11.112780000	-0.782625000	-0.089147000
1	12.013186000	-0.284822000	0.274950000
1	11.190343000	-1.844514000	0.138384000
1	11.067338000	-0.674355000	-1.170761000

6	9.964007000	2.293000000	1.373088000
1	11.049645000	2.311239000	1.483128000
1	9.629606000	3.288302000	1.085260000
1	9.519359000	2.056178000	2.337302000
6	9.934450000	-0.535992000	2.105437000
1	9.957496000	-1.619090000	2.223136000
1	10.831596000	-0.119172000	2.563702000
1	9.062296000	-0.153413000	2.635779000
6	-10.855940000	0.850120000	1.216696000
1	-11.081154000	1.846658000	0.840532000
1	-11.794571000	0.307885000	1.342959000
1	-10.381541000	0.958649000	2.189705000
6	-9.367442000	-1.470906000	2.183971000
1	-10.361923000	-1.542222000	2.625010000
1	-8.828729000	-2.394315000	2.395182000
1	-8.833586000	-0.648218000	2.659995000
6	-10.188254000	-2.479113000	0.044810000
1	-9.706620000	-3.401869000	0.364182000
1	-11.225247000	-2.495369000	0.384511000
1	-10.177469000	-2.454501000	-1.042752000
6	-10.627247000	0.141873000	-1.172952000
1	-11.601853000	-0.345996000	-1.144038000
1	-10.768670000	1.178392000	-1.478476000
1	-10.012011000	-0.354301000	-1.923839000
8	-8.609611000	2.120993000	-0.059997000
1	-2.773303000	4.583587000	-0.268607000
1	0.988026000	3.564315000	-0.222597000
1	4.653181000	2.581461000	-0.249577000
1	2.754863000	-4.555691000	-0.573976000
1	6.291378000	-3.666359000	-0.576109000
1	-0.982718000	-3.532611000	-0.511403000
1	-4.651257000	-2.539554000	-0.494754000
14	5.851426000	-0.442941000	-0.476478000
14	5.289532000	-2.628807000	-0.262154000

14	3.177066000	-3.136294000	-0.648724000
14	1.559762000	-1.590893000	-0.373537000
14	2.172369000	0.590411000	-0.362400000
14	4.346730000	1.145467000	-0.117549000
14	0.581391000	2.150198000	-0.396192000
14	-1.572354000	1.617705000	-0.161424000
14	-2.188771000	-0.543811000	-0.522024000
14	-0.604365000	-2.107649000	-0.367798000
14	-4.351625000	-1.131595000	-0.167471000
14	-5.856370000	0.476867000	-0.488001000
14	-5.291769000	2.642577000	-0.109840000
14	-3.180527000	3.174599000	-0.498317000
1	-6.300739000	3.693537000	-0.352640000

IV(a).

6	8.975628000	1.536553000	-0.323735000
6	9.482650000	2.626174000	0.682367000
6	-13.274407000	0.059320000	-0.582464000
6	-12.420161000	-0.883177000	-1.498625000
6	-11.128072000	1.020870000	-0.911375000
6	7.236584000	3.102785000	0.077774000
7	-11.054854000	-0.254029000	-1.354643000
7	-12.406831000	1.295532000	-0.561324000
7	8.371798000	3.644375000	0.579035000
7	7.498693000	1.849850000	-0.356498000
8	-12.827227000	2.399732000	-0.102329000
8	-10.000702000	-0.841840000	-1.741716000
8	6.654085000	1.051939000	-0.862963000
6	-12.772367000	-0.794774000	-2.990508000
1	-12.009175000	-1.322694000	-3.561871000
1	-13.737561000	-1.261486000	-3.188689000
1	-12.807176000	0.237451000	-3.339346000
6	-14.659370000	0.412892000	-1.112249000
1	-15.280301000	-0.483532000	-1.157807000

1	-15.131435000	1.125161000	-0.437599000
1	-14.623370000	0.862615000	-2.102285000
6	-12.360698000	-2.343704000	-1.067191000
1	-13.350975000	-2.795754000	-1.145786000
1	-11.681963000	-2.884985000	-1.724216000
1	-12.003484000	-2.462220000	-0.046366000
6	-13.379382000	-0.410410000	0.875491000
1	-13.813482000	0.392750000	1.470495000
1	-14.023817000	-1.286264000	0.954057000
1	-12.403975000	-0.656960000	1.295220000
6	10.814167000	3.279441000	0.329847000
1	11.029877000	4.066530000	1.050417000
1	11.614546000	2.538999000	0.376917000
1	10.809259000	3.725459000	-0.662483000
6	9.481198000	1.727626000	-1.761061000
1	10.541923000	1.486243000	-1.833864000
1	8.928400000	1.056896000	-2.418522000
1	9.331875000	2.749152000	-2.111130000
6	9.185213000	0.091066000	0.111517000
1	8.727762000	-0.574291000	-0.618781000
1	10.252612000	-0.131072000	0.160353000
1	8.739847000	-0.119459000	1.081484000
6	9.500824000	2.166755000	2.147464000
1	10.306941000	1.453208000	2.319485000
1	9.667057000	3.036178000	2.783032000
1	8.558093000	1.704763000	2.441097000
8	8.481363000	4.806451000	1.073399000
1	0.179592000	1.087857000	-1.549020000
1	-3.666896000	0.647870000	-1.744707000
1	-7.431574000	0.142501000	-1.886273000
1	-8.432676000	6.636226000	1.435227000
1	-11.336507000	4.666203000	0.524073000
1	-4.579986000	7.105319000	1.599029000
1	-0.727211000	7.544501000	1.798936000

14	-9.694451000	2.207566000	-0.835017000
14	-9.995178000	4.053529000	0.446304000
14	-8.258848000	5.421138000	0.599480000
14	-6.165745000	4.556982000	0.533278000
14	-5.910145000	2.717288000	-0.798822000
14	-7.666727000	1.294847000	-0.993512000
14	-3.846931000	1.830559000	-0.864241000
14	-2.059106000	3.184982000	-0.651627000
14	-2.338345000	5.033231000	0.673400000
14	-4.403091000	5.941745000	0.691586000
14	-0.543893000	6.383492000	0.889490000
14	1.490969000	5.430710000	0.929464000
14	1.793338000	3.598001000	-0.403038000
14	0.000029000	2.270919000	-0.668980000
14	3.318890000	6.740877000	1.203504000
14	5.322930000	5.796549000	1.254707000
14	3.833326000	2.606019000	-0.392382000
14	5.578525000	3.945086000	-0.028548000
1	3.126695000	7.954139000	2.038017000
1	6.477554000	6.693041000	1.463693000
1	3.958209000	1.438918000	-1.288190000

IV(b).

6	9.512686000	2.802235000	-0.050567000
6	8.992455000	3.970884000	0.856624000
6	-14.093873000	1.517888000	-0.324846000
6	-13.575044000	0.349005000	-1.232330000
6	-11.762979000	1.786839000	-0.693379000
6	7.184091000	2.528887000	0.321933000
7	-12.082019000	0.544897000	-1.120345000
7	-12.894225000	2.435242000	-0.329145000
7	7.499538000	3.769887000	0.749280000
7	8.314307000	1.883035000	-0.045603000
8	-12.956668000	3.618819000	0.120290000

8	-11.258969000	-0.333857000	-1.516531000
8	8.378380000	0.699616000	-0.495796000
6	-13.914351000	0.511193000	-2.720946000
1	-13.357454000	-0.233429000	-3.289317000
1	-14.979045000	0.352756000	-2.893677000
1	-13.643872000	1.498745000	-3.095133000
6	-15.313270000	2.267120000	-0.850512000
1	-16.178067000	1.601779000	-0.871655000
1	-15.536144000	3.101155000	-0.187145000
1	-15.155797000	2.666789000	-1.850034000
6	-13.945515000	-1.055279000	-0.768122000
1	-15.027426000	-1.188803000	-0.818804000
1	-13.476471000	-1.787250000	-1.423448000
1	-13.615612000	-1.256216000	0.248802000
6	-14.319004000	1.122280000	1.141523000
1	-14.481385000	2.027709000	1.725738000
1	-15.197768000	0.484621000	1.239831000
1	-13.459365000	0.597238000	1.558309000
6	9.356680000	5.375819000	0.389367000
1	8.886185000	6.106965000	1.044572000
1	10.438180000	5.513487000	0.437604000
1	9.023934000	5.574005000	-0.627177000
6	9.736772000	3.197091000	-1.517268000
1	10.614434000	3.836162000	-1.616234000
1	9.900500000	2.291518000	-2.100854000
1	8.876156000	3.720408000	-1.934190000
6	10.733246000	2.054742000	0.474975000
1	10.956517000	1.220440000	-0.187909000
1	11.597354000	2.720995000	0.495057000
1	10.576845000	1.655712000	1.474919000
6	9.336112000	3.812380000	2.344653000
1	10.400808000	3.974167000	2.514214000
1	8.778567000	4.556389000	2.913163000
1	9.069397000	2.824734000	2.721228000

8	6.674989000	4.646256000	1.148315000
1	-0.952140000	-1.382442000	-1.887926000
1	-4.775445000	-0.737620000	-1.812705000
1	-8.522243000	-0.140572000	-1.773692000
1	-7.461444000	6.345563000	1.555592000
1	-10.846662000	5.311742000	0.755795000
1	-3.629789000	5.685994000	1.531593000
1	0.196549000	5.042792000	1.454485000
14	-10.038871000	2.492313000	-0.653922000
14	-9.742161000	4.340186000	0.628779000
14	-7.681568000	5.138824000	0.718974000
14	-5.930657000	3.705877000	0.566020000
14	-6.276245000	1.875495000	-0.761662000
14	-8.379537000	1.026426000	-0.880427000
14	-4.563612000	0.438068000	-0.929821000
14	-2.453570000	1.226888000	-0.832429000
14	-2.124008000	3.075328000	0.479724000
14	-3.845614000	4.527811000	0.625974000
14	-0.018478000	3.864528000	0.575960000
14	1.695637000	2.429612000	0.399407000
14	1.349915000	0.598378000	-0.923046000
14	-0.737005000	-0.225050000	-0.981166000
14	3.799258000	3.279745000	0.519301000
14	5.456529000	1.821359000	0.280685000
14	3.102485000	-0.829032000	-1.090074000
14	5.160064000	-0.024149000	-1.004831000
1	3.941753000	4.451467000	1.406112000
1	2.881372000	-2.033739000	-1.929222000
1	6.268416000	-0.989545000	-1.144063000

V(a).

6	11.326485000	1.524912000	-0.360628000
6	11.865633000	2.572818000	0.673237000
6	-14.907126000	0.612975000	-0.419812000

6	-14.110913000	-0.362387000	-1.353956000
6	-12.727446000	1.481307000	-0.783145000
6	9.633726000	3.127047000	0.088016000
7	-12.717214000	0.206361000	-1.232790000
7	-13.985657000	1.809849000	-0.409358000
7	10.781599000	3.622399000	0.602445000
7	9.858596000	1.880488000	-0.382019000
8	-14.348010000	2.929110000	0.062701000
8	-11.697259000	-0.425407000	-1.641572000
8	8.990943000	1.121114000	-0.908444000
6	-14.485504000	-0.254213000	-2.839151000
1	-13.756092000	-0.812761000	-3.425317000
1	-15.473168000	-0.678660000	-3.020917000
1	-14.482203000	0.779602000	-3.184932000
6	-16.284234000	1.028746000	-0.924099000
1	-16.945754000	0.161208000	-0.954970000
1	-16.710342000	1.762743000	-0.242144000
1	-16.247170000	1.474632000	-1.915795000
6	-14.106541000	-1.825529000	-0.927128000
1	-15.115980000	-2.235345000	-0.991714000
1	-13.461234000	-2.392743000	-1.595864000
1	-13.739057000	-1.961866000	0.087800000
6	-15.007709000	0.142501000	1.038149000
1	-15.402039000	0.959274000	1.642230000
1	-15.683513000	-0.708662000	1.123716000
1	-14.036162000	-0.142453000	1.442349000
6	13.212595000	3.200517000	0.333296000
1	13.450955000	3.962283000	1.073723000
1	13.993556000	2.438571000	0.357654000
1	13.216301000	3.672660000	-0.646871000
6	11.835022000	1.738826000	-1.793539000
1	12.888765000	1.470923000	-1.874456000
1	11.263393000	1.100000000	-2.466472000
1	11.712864000	2.772425000	-2.117843000

6	11.495037000	0.062892000	0.035775000
1	11.015739000	-0.569146000	-0.709963000
1	12.555532000	-0.191971000	0.074391000
1	11.046778000	-0.159830000	1.001628000
6	11.876171000	2.073066000	2.125014000
1	12.663663000	1.334015000	2.274252000
1	12.067427000	2.919877000	2.783622000
1	10.922458000	1.628233000	2.409545000
8	10.922304000	4.766507000	1.130350000
1	-1.412386000	1.079416000	-1.553207000
1	-5.289916000	0.782993000	-1.669339000
1	-9.079418000	0.442416000	-1.774747000
1	-9.767194000	6.968552000	1.535116000
1	-12.765206000	5.148002000	0.629951000
1	-5.885320000	7.263743000	1.670873000
1	-2.016772000	7.555927000	1.791609000
14	-11.246397000	2.610277000	-0.720352000
14	-11.461170000	4.460162000	0.549170000
14	-9.648952000	5.742804000	0.705289000
14	-7.612992000	4.780193000	0.630253000
14	-7.445127000	2.952283000	-0.711905000
14	-9.247566000	1.615439000	-0.893961000
14	-5.391580000	1.985185000	-0.802485000
14	-3.562474000	3.259061000	-0.642813000
14	-3.747835000	5.086839000	0.739672000
14	-5.761295000	6.074670000	0.788522000
14	-1.900577000	6.380240000	0.889386000
14	0.133613000	5.371078000	0.883878000
14	0.322133000	3.543836000	-0.496227000
14	-1.530568000	2.250385000	-0.644881000
14	1.962599000	6.637899000	1.087011000
14	3.996219000	5.629113000	1.072833000
14	2.329567000	2.549258000	-0.512763000
14	4.199852000	3.804517000	-0.268381000

1	1.849720000	7.828884000	1.968089000
1	2.465186000	1.355440000	-1.386506000
14	5.853575000	6.879020000	1.299569000
1	5.725680000	8.104569000	2.128570000
14	7.842994000	5.874704000	1.300385000
1	9.018638000	6.752529000	1.465961000
14	8.000003000	4.025749000	0.019669000
14	6.194469000	2.748501000	-0.308062000
1	6.267686000	1.570827000	-1.195766000

V(b).

6	12.131444000	3.162492000	-0.176908000
6	11.604053000	4.442303000	0.561511000
6	-15.318496000	1.767607000	-0.665618000
6	-14.628153000	0.572464000	-1.409870000
6	-12.972104000	1.878918000	-0.322660000
6	9.835900000	2.871696000	0.352661000
7	-13.227742000	0.662516000	-0.851282000
7	-14.115276000	2.600096000	-0.291371000
7	10.118009000	4.176587000	0.562262000
7	10.974687000	2.214997000	0.035158000
8	-14.227506000	3.792051000	0.125491000
8	-12.374917000	-0.258193000	-1.031236000
8	11.065208000	0.977832000	-0.227198000
6	-14.493138000	0.772027000	-2.926147000
1	-13.842212000	-0.006000000	-3.324084000
1	-15.464840000	0.693777000	-3.414178000
1	-14.056944000	1.740424000	-3.171938000
6	-16.277299000	2.601044000	-1.508050000
1	-17.137820000	1.996528000	-1.799781000
1	-16.632120000	3.444752000	-0.918509000
1	-15.806924000	2.994740000	-2.406612000
6	-15.208334000	-0.807069000	-1.120173000
1	-16.230138000	-0.867986000	-1.498787000

1	-14.608377000	-1.562429000	-1.625122000
1	-15.215523000	-1.040846000	-0.057638000
6	-15.993563000	1.377708000	0.657124000
1	-16.274389000	2.287563000	1.187146000
1	-16.894626000	0.792119000	0.473367000
1	-15.328089000	0.800392000	1.299264000
6	11.887246000	5.767364000	-0.137395000
1	11.413833000	6.575221000	0.418080000
1	12.962685000	5.950586000	-0.164581000
1	11.503024000	5.790015000	-1.154880000
6	12.272336000	3.327589000	-1.696855000
1	13.109556000	3.982951000	-1.937583000
1	12.461088000	2.349120000	-2.137747000
1	11.368493000	3.736534000	-2.148898000
6	13.406329000	2.553200000	0.395068000
1	13.633384000	1.629876000	-0.135496000
1	14.240793000	3.243320000	0.258802000
1	13.317031000	2.318080000	1.453535000
6	12.020430000	4.533144000	2.036407000
1	13.083605000	4.757863000	2.124552000
1	11.456816000	5.336961000	2.509511000
1	11.814815000	3.608698000	2.576478000
8	9.275756000	5.074836000	0.864254000
1	-2.058180000	-1.226355000	-0.496335000
1	-5.905579000	-0.716398000	-0.460682000
1	-9.686982000	-0.273020000	-0.412869000
1	-8.830337000	6.821795000	1.306776000
1	-12.188743000	5.501294000	0.960725000
1	-4.969588000	6.339559000	1.208777000
1	-1.105101000	5.844793000	1.132159000
14	-11.301683000	2.449025000	0.282904000
14	-11.045748000	4.674498000	0.524819000
14	-9.018532000	5.358317000	1.140062000
14	-7.217099000	4.185152000	0.473980000

14	-7.524803000	1.940021000	0.299121000
14	-9.558095000	1.196378000	-0.344013000
14	-5.704500000	0.750546000	-0.339001000
14	-3.665746000	1.424234000	0.293507000
14	-3.367614000	3.700494000	0.418587000
14	-5.147285000	4.867519000	1.109469000
14	-1.306372000	4.371858000	1.098524000
14	0.484230000	3.195184000	0.356996000
14	0.188367000	0.925559000	0.201786000
14	-1.871788000	0.247601000	-0.443963000
14	2.532368000	3.892893000	0.882159000
14	4.363274000	2.629637000	0.508811000
14	1.966280000	-0.272326000	-0.414858000
14	4.063005000	0.484520000	-0.118095000
1	2.756323000	5.341961000	1.100918000
1	1.804472000	-1.730591000	-0.626643000
14	6.420304000	3.510806000	0.552265000
1	6.533594000	4.874062000	1.101966000
14	8.149639000	2.099114000	0.518138000
14	7.907153000	0.030796000	-0.336980000
14	5.866594000	-0.837724000	-0.237846000
1	5.656007000	-2.217263000	-0.738429000
1	9.030581000	-0.925493000	-0.298637000

Reference

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