Ninth and Tenth Order Virial Coefficients for Hard Spheres in D Dimensions – Collection of Tables

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Abstract

Collection of tables for the dedicated reader of Clisby and McCoy "Ninth and Tenth Order Virial Coefficients for Hard Spheres in D Dimensions".

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1 Tables for D=2

Table 1: Singularities for all differential approximants in $D = 2$ in terms of $B_2\rho$, with the corresponding exponents immediately below. Defective approximants are marked with †, and the singularities are arranged so that the singularity nearest $B_2\rho = 1.98$ is in the left most column. In most cases, this singularity has the smallest modulus, but when this is not the case the singularity with smallest modulus is marked with $*$.

Approximant	Singularity / Exponent			
$[4, 3; 0]$	1.98	$1.58 \pm 2.94\ i$		
	-1.74	$0.528 \mp 0.449\ i$		
$[3, 4; 0]$	1.98	$1.58 \pm 2.92\ i$	-30.6	
	-1.74	$0.508 \mp 0.453\ i$	0.728	
$[4, 4; 0]^{\dagger}$	1.99	$1.46 \pm 2.80\ i$	-1.11^{*}	
	-1.79	$0.406 \mp 0.386\ i$	3.18×10^{-5}	
$[5, 4; 0]^{\dagger}$	1.99	$1.46 \pm 2.81\ i$	-0.978^{*}	
	-1.79	$0.418 \mp 0.390\ i$	1.38×10^{-5}	
$[4, 5; 0]^{\dagger}$	1.99	$1.46 \pm 2.81\ i$	$-267.$	-0.977^{*}
	-1.79	$0.418 \mp 0.390\ i$	0.952	1.37×10^{-5}
$[3, 2; 1]$	1.96	-5.22		
	-1.66	12.3		
$[2, 3; 1]$	1.96	$-3.66 \pm 7.70\ i$		
	-1.67	$1.92 \mp 7.72\ i$		
$[3, 3; 1]$	$1.80 \pm 0.198\ i$	3.77		
	$-1.07 \mp 0.0804\ i$	-2.70		
$[4, 3; 1]$	1.98	-2.58	-0.601^{*}	
	-1.74	-6.19	27.3	
$[3, 4; 1]$	1.98	$-0.589 \pm 4.37\ i$	-0.828^{*}	
	-1.76	$0.0841 \mp 2.37\ i$	8.79	
$[2, 2; 2]$	1.96	-5.78		
	-1.66	14.0		
$[3, 2; 2]$	1.95	0.619^{*}		
	-1.59	-0.935		
$[2, 3; 2]$	2.06	$2.09 \pm 0.978\ i$		
	-2.25	$-0.830 \pm 1.11\ i$		
$[3, 3; 2]$	1.97	$0.945 \pm 1.80\ i$		
	-1.70	$-0.344 \pm 2.38\ i$		
$[2, 2; 3]$	1.98	0.345^{*}		
	-1.79	-23.7		
$[3, 2; 3]$	1.98	0.361^{*}		
	-1.78	-21.2		
$[2, 3; 3]$	1.98	42.6	0.445^{*}	
	-1.78	-3.23	-16.6	
$[2, 2; 4]$	1.98	-0.0937^{*}		
	-1.75	95.9		
$[2, 2, 2; 0]$	1.79	1.21		
	1.24	-10.7		
$[3, 2, 2; 0]$	$2.16 \pm 0.319\ i$			
	$-2.74 \mp 0.955\ i$			
$[2, 3, 3; 0]$	1.94	$0.939 \pm 1.61\ i^{*}$		
	-1.41	$-0.985 \pm 1.12\ i$		
$[2, 2, 2; 1]$	1.98	9.17		
	-1.72	-17.5		

Table 2: Singularities for all Padé approximants in $D = 2$ in terms of $B_2\rho$, with the corresponding residues immediately below. Defective approximants are marked with †.

Approximant	Singularity / Residue			
[4/3]	1.87	2.40	19.9	
	-11.5	13.7	-63.2	
[3/4]	1.91	2.21	$2.78 \pm 2.62\ i$	
	-16.8	17.4	$-0.568 \pm 0.424\ i$	
[4/4]	$1.89 \pm 0.187\ i$	$2.81 \pm 1.43\ i$		
	$-1.33 \mp 6.26\ i$	$0.839 \pm 1.90\ i$		
[5/4]	1.90	2.28	$0.513 \pm 3.21\ i$	
	-14.4	15.8	$0.0116 \mp 0.0580\ i$	
$[4/5]^\dagger$	-0.908	1.94	2.12	$2.60 \pm 2.40\ i$
	-4.83×10^{-7}	-26.8	27.0	$-0.380 \pm 0.551\ i$

Table 3: Predicted coefficients for Padé and differential approximants which exactly reproduce the virial coefficients to B_9 or B_{10} in 2 dimensions. Defective approximants are marked with †.

	Predicted coefficients							
	B_{11}/B_2^{10}	B_{12}/B_2^{11}	B_{13}/B_2^{12}	B_{14}/B_2^{13}	B_{15}/B_2^{14}	B_{16}/B_2^{15}	B_{17}/B_2^{16}	B_{18}/B_2^{17}
[4/4]	0.0109	0.00586	0.00313	0.00165	0.000866	0.000449	0.000231	0.000117
[5/4]	0.0109	0.00591	0.00319	0.00171	0.000918	0.000490	0.000261	0.000139
$[4/5]^\dagger$	0.0109	0.00590	0.00317	0.00170	0.000902	0.000482	0.000251	0.000136
$[4,4;0]^\dagger$	0.0109	0.00590	0.00317	0.00170	0.000905	0.000481	0.000254	0.000134
$[5,4;0]^\dagger$	0.0109	0.00590	0.00317	0.00170	0.000905	0.000482	0.000254	0.000135
$[4,5;0]^\dagger$	0.0109	0.00590	0.00317	0.00170	0.000905	0.000482	0.000254	0.000135
[3, 3; 1]	0.0109	0.00585	0.00311	0.00164	0.000849	0.000434	0.000217	0.000106
[4, 3; 1]	0.0109	0.00590	0.00318	0.00171	0.000910	0.000484	0.000256	0.000136
[3, 4; 1]	0.0109	0.00590	0.00318	0.00170	0.000909	0.000483	0.000256	0.000135
[3, 2; 2]	0.0108	0.00570	0.00279	0.00104	-0.000190	-0.00131	-0.00264	-0.00453
[2, 3; 2]	0.0109	0.00586	0.00314	0.00167	0.000879	0.000461	0.000241	0.000125
[3, 3; 2]	0.0109	0.00591	0.00318	0.00171	0.000911	0.000484	0.000257	0.000136
[2, 2; 3]	0.0109	0.00590	0.00318	0.00170	0.000908	0.000482	0.000256	0.000135
[3, 2; 3]	0.0109	0.00590	0.00318	0.00170	0.000909	0.000484	0.000253	0.000144
[2, 3; 3]	0.0109	0.00590	0.00318	0.00170	0.000908	0.000487	0.000240	0.000222
[2, 2; 4]	0.0109	0.00590	0.00318	0.00170	0.000910	0.000484	0.000256	0.000135
[3, 2, 2; 0]	0.0109	0.00585	0.00312	0.00164	0.000857	0.000441	0.000225	0.000113
[2, 3, 3; 0]	0.0109	0.00592	0.00319	0.00172	0.000920	0.000491	0.000261	0.000139
[2, 2, 2; 1]	0.0109	0.00590	0.00318	0.00171	0.000911	0.000484	0.000257	0.000136

2 Tables for D=3

Table 4: Singularities for all differential approximants in $D = 3$ in terms of $B_2\rho$, with the corresponding exponents immediately below. Defective approximants are marked with †, and the singularities are listed from left to right in order of their modulus. The most stable singularity is on the positive real axis in the vicinity of $B_2\rho = 3.75$, and this appears in the second column in all cases.

Approximant	Singularity / Exponent		
[4, 3; 0]	$-1.03 \pm 2.64\ i$	3.71	
	$0.640 \mp 0.0898\ i$	-2.04	
[3, 4; 0]	$-1.05 \pm 2.73\ i$	3.83	-6.75
	$0.752 \mp 0.134\ i$	-2.33	0.824
[4, 4; 0]	$-1.04 \pm 2.65\ i$	3.73	-65.6
	$0.652 \mp 0.0885\ i$	-2.09	14.1
[5, 4; 0]	$-1.04 \pm 2.65\ i$	3.73	$-232.$
	$0.651 \mp 0.0881\ i$	-2.09	183.
[4, 5; 0]	$-1.04 \pm 2.65\ i$	3.73	$-44.4 \pm 58.5\ i$
	$0.651 \mp 0.0881\ i$	-2.09	$0.394 \mp 9.61\ i$
[3, 2; 1]	-3.49	4.04	
	6.71	-2.95	
[2, 3; 1]	$-1.68 \pm 1.51\ i$	3.79	
	$1.72 \mp 0.928\ i$	-2.25	
[3, 3; 1]	$-1.93 \pm 1.76\ i$	3.81	
	$1.54 \mp 1.36\ i$	-2.30	
[4, 3; 1]	$-1.11 \pm 2.69\ i$	3.73	
	$0.627 \mp 0.190\ i$	-2.07	
[3, 4; 1]	$-0.621 \pm 1.87\ i$	3.79	-6.95
	$0.913 \pm 1.18\ i$	-2.24	-0.506
[2, 2; 2]	1.15	3.64	
	-3.22	-1.99	
[3, 2; 2]	-0.544	3.87	
	13.4	-2.47	
[2, 3; 2]	$-1.24 \pm 2.13\ i$	3.80	
	$1.13 \pm 0.230\ i$	-2.27	
[3, 3; 2]	$-0.464 \pm 2.25\ i$	3.78	
	$0.476 \pm 1.21\ i$	-2.22	
[2, 2; 3]	2.91	3.75	
	-1.17	-1.96	
[3, 2; 3]	2.74	3.77	
	-1.44	-2.01	
[2, 3; 3]	2.37	3.77	-38.7
	-2.05	-2.09	-3.71
[2, 2; 4]	2.78	3.77	
	-1.38	-2.00	
[2, 2, 2; 0]	4.35	-5.19	
	-3.86	4.07	
[3, 2, 2; 0]	1.21	6.04	
	-1.35	-9.45	
[2, 3, 3; 0]	$-0.840 \pm 2.45\ i$	3.76	
	$0.469 \pm 0.0986\ i$	-2.17	
[2, 2, 2; 1]	-2.68	3.70	
	6.49	-2.06	

Table 5: Singularities for all Padé approximants in $D = 3$ in terms of $B_2\rho$, with the corresponding residues immediately below. Defective approximants are marked with †.

Approximant	Singularity / Residue			
$[4/3]^\dagger$	0.516	3.44	3.92	
	2.84×10^{-7}	$-146.$	$178.$	
$[3/4]$	$3.32 \pm 0.602\ i$	$0.249 \pm 7.66\ i$		
	$7.42 \mp 36.9\ i$	$-1.87 \mp 5.40\ i$		
$[4/4]$	-2.65	$3.50 \pm 0.461\ i$	-16.3	
	0.0100	$11.9 \mp 65.0\ i$	-37.2	
$[5/4]$	$-1.13 \pm 2.24\ i$	$3.57 \pm 0.366\ i$		
	$0.00100 \mp 0.00669\ i$	$14.0 \mp 92.3\ i$		
$[4/5]$	3.43	$-1.80 \pm 3.99\ i$	4.39	6.32
	$-109.$	$0.135 \mp 0.293\ i$	$213.$	$-110.$

Table 6: Predicted coefficients for Padé and differential approximants which exactly reproduce the virial coefficients to B_9 or B_{10} in 3 dimensions. Defective approximants are marked with †.

	Predicted coefficients							
	B_{11}/B_2^{10}	B_{12}/B_2^{11}	B_{13}/B_2^{12}	B_{14}/B_2^{13}	B_{15}/B_2^{14}	B_{16}/B_2^{15}	B_{17}/B_2^{16}	B_{18}/B_2^{17}
$[4/4]$	0.000119	3.48×10^{-5}	1.01×10^{-5}	2.82×10^{-6}	7.92×10^{-7}	2.13×10^{-7}	5.82×10^{-8}	1.48×10^{-8}
$[5/4]$	0.000121	3.57×10^{-5}	1.06×10^{-5}	3.03×10^{-6}	8.55×10^{-7}	2.49×10^{-7}	6.86×10^{-8}	1.81×10^{-8}
$[4/5]$	0.000122	3.68×10^{-5}	1.10×10^{-5}	3.26×10^{-6}	9.63×10^{-7}	2.84×10^{-7}	8.34×10^{-8}	2.44×10^{-8}
$[4,4;0]$	0.000122	3.64×10^{-5}	1.08×10^{-5}	3.17×10^{-6}	9.22×10^{-7}	2.67×10^{-7}	7.72×10^{-8}	2.21×10^{-8}
$[5,4;0]$	0.000122	3.64×10^{-5}	1.08×10^{-5}	3.17×10^{-6}	9.21×10^{-7}	2.67×10^{-7}	7.72×10^{-8}	2.21×10^{-8}
$[4,5;0]$	0.000122	3.64×10^{-5}	1.08×10^{-5}	3.17×10^{-6}	9.21×10^{-7}	2.67×10^{-7}	7.72×10^{-8}	2.21×10^{-8}
$[3,3;1]$	0.000121	3.60×10^{-5}	1.06×10^{-5}	3.08×10^{-6}	8.93×10^{-7}	2.56×10^{-7}	7.31×10^{-8}	2.08×10^{-8}
$[4,3;1]$	0.000122	3.64×10^{-5}	1.08×10^{-5}	3.17×10^{-6}	9.24×10^{-7}	2.68×10^{-7}	7.74×10^{-8}	2.22×10^{-8}
$[3,4;1]$	0.000121	3.61×10^{-5}	1.07×10^{-5}	3.12×10^{-6}	8.92×10^{-7}	2.65×10^{-7}	7.53×10^{-8}	2.01×10^{-8}
$[3,2;2]$	0.000120	3.54×10^{-5}	1.05×10^{-5}	2.95×10^{-6}	9.19×10^{-7}	2.08×10^{-7}	1.03×10^{-7}	-8.58×10^{-9}
$[2,3;2]$	0.000121	3.61×10^{-5}	1.06×10^{-5}	3.10×10^{-6}	8.97×10^{-7}	2.59×10^{-7}	7.37×10^{-8}	2.10×10^{-8}
$[3,3;2]$	0.000122	3.61×10^{-5}	1.07×10^{-5}	3.14×10^{-6}	9.02×10^{-7}	2.62×10^{-7}	7.62×10^{-8}	2.12×10^{-8}
$[2,2;3]$	0.000123	3.70×10^{-5}	1.11×10^{-5}	3.34×10^{-6}	1.01×10^{-6}	3.03×10^{-7}	9.19×10^{-8}	2.80×10^{-8}
$[3,2;3]$	0.000123	3.74×10^{-5}	1.14×10^{-5}	3.50×10^{-6}	1.08×10^{-6}	3.41×10^{-7}	1.09×10^{-7}	3.58×10^{-8}
$[2,3;3]$	0.000123	3.79×10^{-5}	1.19×10^{-5}	3.85×10^{-6}	1.31×10^{-6}	4.77×10^{-7}	1.85×10^{-7}	7.61×10^{-8}
$[2,2;4]$	0.000123	3.74×10^{-5}	1.14×10^{-5}	3.48×10^{-6}	1.07×10^{-6}	3.35×10^{-7}	1.06×10^{-7}	3.43×10^{-8}
$[3,2,2;0]$	0.000154	7.61×10^{-5}	5.20×10^{-5}	4.24×10^{-5}	3.68×10^{-5}	3.23×10^{-5}	2.83×10^{-5}	2.47×10^{-5}
$[2,3,3;0]$	0.000122	3.63×10^{-5}	1.07×10^{-5}	3.15×10^{-6}	9.11×10^{-7}	2.64×10^{-7}	7.62×10^{-8}	2.16×10^{-8}
$[2,2,2;1]$	0.000123	3.68×10^{-5}	1.09×10^{-5}	3.23×10^{-6}	9.47×10^{-7}	2.76×10^{-7}	8.01×10^{-8}	2.31×10^{-8}

3 Tables for D=4

Table 7: Singularities for all differential approximants in $D = 4$ in terms of $B_2\rho$, with the corresponding exponents immediately below. Defective approximants are marked with †, and the singularities are listed from left to right in order of their modulus.

Approximant	Singularity / Exponent			
[4, 3; 0]	$-1.65 \pm 1.68\ i$	5.55		
	$0.712 \mp 0.0883\ i$	-1.21		
[3, 4; 0]	$-1.69 \pm 1.63\ i$	-5.02	6.84	
	$0.740 \pm 0.0225\ i$	0.998	-2.48	
[4, 4; 0]	-2.31	$-1.77 \pm 1.67\ i$	7.25	
	0.142	$0.914 \pm 0.00786\ i$	-2.87	
[5, 4; 0]	-1.64	$-1.73 \pm 1.71\ i$	6.79	
	0.0127	$0.857 \mp 0.0831\ i$	-2.31	
[4, 5; 0]	-1.50	$-1.72 \pm 1.70\ i$	7.00	-9.46
	0.00557	$0.823 \mp 0.0680\ i$	-2.60	0.949
[2, 3; 1]	-0.785	4.23	5.41	
	5.39	0.787	-2.92	
[3, 2; 1]	-1.06	8.33		
	3.93	-4.37		
[3, 3; 1]	$-1.91 \pm 0.631\ i$	7.30		
	$1.35 \mp 1.54\ i$	-2.92		
[4, 3; 1]	-1.36	5.41	$-257.$	
	3.50	-0.820	-3.27×10^3	
[3, 4; 1]	-1.43	$-0.828 \pm 3.96\ i$	6.82	
	2.67	$0.171 \pm 0.152\ i$	-2.43	
[2, 2; 2]	-3.31	7.72		
	-2.02	-3.53		
[3, 2; 2]	-6.31	7.25		
	-6.37	-2.90		
[2, 3; 2]	$-4.14 \pm 3.88\ i$	7.28		
	$0.120 \pm 3.48\ i$	-2.92		
[3, 3; 2]	1.24	-3.70	7.31	
	-3.28	-1.81	-2.92	
[2, 2; 3]	-6.28	7.51		
	-5.36	-3.40		
[3, 2; 3]	0.0582	-8.14		
	856.	-93.0		
[2, 3; 3]	1.31	-3.64	7.00	
	-4.92	-1.42	-2.54	
[2, 2; 4]	-1.31	6.19		
	3.07	-1.65		
[2, 2, 2; 0]	-1.09	9.29		
	3.26	-5.79		
[3, 2, 2; 0]	-1.04	3.68		
	7.01	6.41		
[2, 3, 3; 0]	-2.54	6.16	-7.92	
	-0.892	-2.12	12.6	
[2, 2, 2; 1]	-1.14	6.83		
	4.12	-2.52		

Table 8: Singularities for all Padé approximants in $D = 4$ in terms of $B_2\rho$, with the corresponding residues immediately below. Defective approximants are marked with †.

Approximant	Singularity / Residue			
[4/3]	-2.44	$5.40 \pm 1.44\ i$		
	-0.0257	$52.7 \mp 116.\ i$		
[3/4]	-2.55	$5.60 \pm 1.38\ i$	20.9	
	-0.0347	$71.1 \mp 149.\ i$	$-262.$	
[4/4]	-2.84	4.58	$4.95 \pm 2.64\ i$	
	-0.0678	-43.1	$44.8 \mp 9.81\ i$	
[5/4]	-2.85	4.68	$5.01 \pm 2.76\ i$	
	-0.0695	-51.8	$46.6 \mp 3.20\ i$	
[4/5]	-2.85	4.68	$5.01 \pm 2.75\ i$	$-275.$
	-0.0695	-51.7	$46.7 \mp 3.35\ i$	1.02×10^3

Table 9: Predicted coefficients for Padé and differential approximants which exactly reproduce the virial coefficients to B_9 or B_{10} in 4 dimensions. Defective approximants are marked with †.

	Predicted coefficients							
	B_{11}/B_2^{10}	B_{12}/B_2^{11}	B_{13}/B_2^{12}	B_{14}/B_2^{13}	B_{15}/B_2^{14}	B_{16}/B_2^{15}	B_{17}/B_2^{16}	B_{18}/B_2^{17}
[4/4]	1.19×10^{-6}	6.60×10^{-7}	7.03×10^{-9}	5.27×10^{-8}	-5.71×10^{-9}	4.98×10^{-9}	-1.08×10^{-9}	5.31×10^{-10}
[5/4]	1.17×10^{-6}	6.38×10^{-7}	2.33×10^{-9}	4.98×10^{-8}	-6.03×10^{-9}	4.69×10^{-9}	-1.08×10^{-9}	5.02×10^{-10}
[4/5]	1.17×10^{-6}	6.38×10^{-7}	2.40×10^{-9}	4.99×10^{-8}	-6.02×10^{-9}	4.69×10^{-9}	-1.08×10^{-9}	5.02×10^{-10}
[4, 4; 0]	1.02×10^{-6}	3.92×10^{-7}	-3.89×10^{-8}	4.24×10^{-8}	-1.49×10^{-8}	6.47×10^{-9}	-2.31×10^{-9}	8.40×10^{-10}
[5, 4; 0]	-2.87×10^{-7}	1.37×10^{-6}	-6.26×10^{-7}	3.87×10^{-7}	-2.12×10^{-7}	1.20×10^{-7}	-6.81×10^{-8}	3.92×10^{-8}
[4, 5; 0]	-5.56×10^{-7}	1.66×10^{-6}	-8.85×10^{-7}	5.85×10^{-7}	-3.55×10^{-7}	2.20×10^{-7}	-1.38×10^{-7}	8.67×10^{-8}
[3, 3; 1]	1.48×10^{-6}	5.13×10^{-8}	1.57×10^{-7}	-5.49×10^{-8}	2.73×10^{-8}	-9.66×10^{-9}	3.02×10^{-9}	-5.85×10^{-10}
[4, 3; 1]	5.77×10^{-7}	7.77×10^{-7}	-1.85×10^{-7}	1.30×10^{-7}	-6.09×10^{-8}	3.37×10^{-8}	-1.82×10^{-8}	1.01×10^{-8}
[3, 4; 1]	2.47×10^{-7}	8.50×10^{-7}	-2.54×10^{-7}	1.59×10^{-7}	-7.92×10^{-8}	4.34×10^{-8}	-2.36×10^{-8}	1.31×10^{-8}
[3, 2; 2]	1.11×10^{-6}	3.06×10^{-7}	2.06×10^{-8}	1.01×10^{-8}	7.67×10^{-11}	3.47×10^{-10}	-1.82×10^{-11}	1.25×10^{-11}
[2, 3; 2]	1.15×10^{-6}	2.87×10^{-7}	2.69×10^{-8}	7.91×10^{-9}	6.62×10^{-10}	1.88×10^{-10}	1.98×10^{-11}	3.59×10^{-12}
[3, 3; 2]	2.95×10^{-6}	2.87×10^{-6}	2.89×10^{-6}	3.20×10^{-6}	3.37×10^{-6}	3.46×10^{-6}	3.48×10^{-6}	3.42×10^{-6}
[2, 2; 3]	1.12×10^{-6}	2.96×10^{-7}	2.18×10^{-8}	9.31×10^{-9}	1.86×10^{-10}	3.02×10^{-10}	-1.08×10^{-11}	1.02×10^{-11}
[3, 2; 3]	1.38×10^{-6}	7.20×10^{-7}	9.04×10^{-8}	7.87×10^{-8}	1.57×10^{-8}	1.19×10^{-8}	3.66×10^{-9}	2.26×10^{-9}
[2, 3; 3]	6.03×10^{-6}	1.13×10^{-5}	1.88×10^{-5}	2.82×10^{-5}	3.80×10^{-5}	4.78×10^{-5}	5.66×10^{-5}	6.42×10^{-5}
[2, 2; 4]	4.50×10^{-7}	8.16×10^{-7}	-2.29×10^{-7}	1.53×10^{-7}	-7.75×10^{-8}	4.42×10^{-8}	-2.50×10^{-8}	1.46×10^{-8}
[3, 2, 2; 0]	4.46×10^{-7}	8.95×10^{-7}	-2.63×10^{-7}	1.87×10^{-7}	-1.00×10^{-7}	6.12×10^{-8}	-3.72×10^{-8}	2.35×10^{-8}
[2, 3, 3; 0]	8.47×10^{-7}	6.14×10^{-7}	-6.51×10^{-8}	5.54×10^{-8}	-1.59×10^{-8}	7.10×10^{-9}	-2.58×10^{-9}	1.03×10^{-9}
[2, 2, 2; 1]	2.62×10^{-7}	9.15×10^{-7}	-3.18×10^{-7}	2.14×10^{-7}	-1.21×10^{-7}	7.46×10^{-8}	-4.64×10^{-8}	2.96×10^{-8}

4 Tables for D=5

Table 10: Singularities for all differential approximants in $D = 5$ in terms of $B_2\rho$, with the corresponding exponents immediately below. Defective approximants are marked with †, and the singularities are listed from left to right in order of their modulus.

Approximant	Singularity / Exponent			
$[4,3;0]$	$-1.92 \pm 0.865\ i$	-18.8		
	$1.28 \pm 0.453\ i$	-19.9		
$[3,4;0]^\dagger$	1.35	$-1.84 \pm 0.871\ i$	9.65	
	0.000435	$1.04 \pm 0.335\ i$	-2.09	
$[4,4;0]$	-1.55	$-1.81 \pm 1.01\ i$	14.3	
	-0.0909	$0.942 \mp 0.000260\ i$	-3.82	
$[5,4;0]^\dagger$	-0.988	$-1.84 \pm 0.912\ i$	47.5	
	-0.000986	$1.05 \pm 0.260\ i$	-66.5	
$[4,5;0]^\dagger$	-1.09	$-1.81 \pm 0.928\ i$	$7.76 \pm 3.64\ i$	
	-0.00298	$0.988 \pm 0.209\ i$	$-0.987 \mp 0.245\ i$	
$[2,3;1]$	-1.07	13.2	-33.7	
	2.68	-3.14	1.44	
$[3,2;1]$	-1.07	12.5		
	2.70	-2.67		
$[3,3;1]$	-1.13	-2.97	14.5	
	2.51	0.0814	-3.92	
$[4,3;1]$	0.329	-1.06	12.1	
	0.215	2.78	-2.49	
$[3,4;1]$	0.301	-1.05	12.9	-27.3
	0.733	2.98	-3.04	1.34
$[2,2;2]$	-1.19	14.5		
	1.92	-3.97		
$[3,2;2]$	-1.20	14.8		
	1.84	-4.16		
$[2,3;2]$	-1.20	14.8	$231.$	
	1.83	-4.19	2.55	
$[3,3;2]$	0.165	-1.29	14.4	
	-9.14	0.957	-3.88	
$[2,2;3]$	-1.19	14.7		
	1.90	-4.09		
$[3,2;3]$	$-3.92 \pm 5.72\ i$			
	$-34.1 \mp 7.49\ i$			
$[2,3;3]$	1.24	-1.94	13.4	
	-7.82	-0.888	-2.98	
$[2,2;4]$	2.24	-5.29		
	-10.9	5.71		
$[2,2,2;0]$	-1.03	11.8		
	3.01	-1.82		
$[3,2,2;0]$	-1.17	37.3		
	1.95	-27.5		
$[2,3,3;0]$	$-1.22 \pm 1.36\ i$	7.26		
	$-0.700 \mp 2.90\ i$	-3.81		
$[2,2,2;1]$	-1.02	15.8		
	2.78	-4.23		

Table 11: Singularities for all Padé approximants in $D = 5$ in terms of $B_2\rho$, with the corresponding residues immediately below. Defective approximants are marked with †.

Approximant	Singularity / Residue			
[4/3]	-2.07	$6.91 \pm 2.98\ i$		
	0.0412	$77.9 \mp 121.\ i$		
[3/4]	-2.06	$6.98 \pm 3.01\ i$	-57.1	
	0.0407	$84.9 \mp 126.\ i$	$477.$	
[4/4]†	-0.886	-2.23	$7.48 \pm 3.00\ i$	
	9.42×10^{-6}	0.0627	$118. \mp 171.\ i$	
[5/4]†	-1.06	-2.31	$7.62 \pm 2.99\ i$	
	5.92×10^{-5}	0.0734	$129. \mp 186.\ i$	
[4/5]†	-1.06	-2.31	$7.62 \pm 2.99\ i$	$204.$
	5.87×10^{-5}	0.0732	$130. \mp 187.\ i$	-2.83×10^{3}

Table 12: Predicted coefficients for Padé and differential approximants which exactly reproduce the virial coefficients to B_9 or B_{10} in 5 dimensions. Defective approximants are marked with †.

	Predicted coefficients							
	B_{11}/B_2^{10}	B_{12}/B_2^{11}	B_{13}/B_2^{12}	B_{14}/B_2^{13}	B_{15}/B_2^{14}	B_{16}/B_2^{15}	B_{17}/B_2^{16}	B_{18}/B_2^{17}
[4/4]†	4.48×10^{-5}	-4.43×10^{-5}	4.72×10^{-5}	-5.20×10^{-5}	5.81×10^{-5}	-6.53×10^{-5}	7.35×10^{-5}	-8.29×10^{-5}
[5/4]†	3.76×10^{-5}	-3.16×10^{-5}	2.81×10^{-5}	-2.57×10^{-5}	2.39×10^{-5}	-2.24×10^{-5}	2.10×10^{-5}	-1.97×10^{-5}
[4/5]†	3.76×10^{-5}	-3.17×10^{-5}	2.82×10^{-5}	-2.58×10^{-5}	2.40×10^{-5}	-2.24×10^{-5}	2.11×10^{-5}	-1.98×10^{-5}
[4, 4; 0]	2.51×10^{-5}	-1.50×10^{-5}	9.07×10^{-6}	-5.48×10^{-6}	3.33×10^{-6}	-2.02×10^{-6}	1.23×10^{-6}	-7.55×10^{-7}
[5, 4; 0]†	3.89×10^{-5}	-3.40×10^{-5}	3.11×10^{-5}	-2.92×10^{-5}	2.76×10^{-5}	-2.62×10^{-5}	2.50×10^{-5}	-2.39×10^{-5}
[4, 5; 0]†	3.71×10^{-5}	-3.01×10^{-5}	2.52×10^{-5}	-2.15×10^{-5}	1.84×10^{-5}	-1.58×10^{-5}	1.37×10^{-5}	-1.18×10^{-5}
[3, 3; 1]	2.63×10^{-5}	-1.67×10^{-5}	1.08×10^{-5}	-7.23×10^{-6}	4.92×10^{-6}	-3.40×10^{-6}	2.39×10^{-6}	-1.71×10^{-6}
[4, 3; 1]	1.69×10^{-5}	-5.05×10^{-5}	-7.41×10^{-5}	-0.000249	-0.000662	-0.00187	-0.00526	-0.0149
[3, 4; 1]	1.65×10^{-5}	-5.37×10^{-5}	-8.75×10^{-5}	-0.000302	-0.000857	-0.00257	-0.00767	-0.0231
[3, 2; 2]	2.62×10^{-5}	-1.65×10^{-5}	1.06×10^{-5}	-7.01×10^{-6}	4.70×10^{-6}	-3.20×10^{-6}	2.21×10^{-6}	-1.54×10^{-6}
[2, 3; 2]	2.62×10^{-5}	-1.65×10^{-5}	1.06×10^{-5}	-7.01×10^{-6}	4.70×10^{-6}	-3.20×10^{-6}	2.21×10^{-6}	-1.54×10^{-6}
[3, 3; 2]	-0.00544	-0.292	-8.87	$-199.$	-3.66×10^{3}	-5.83×10^{4}	-8.34×10^{5}	-1.10×10^{7}
[2, 2; 3]	2.62×10^{-5}	-1.65×10^{-5}	1.07×10^{-5}	-7.04×10^{-6}	4.73×10^{-6}	-3.23×10^{-6}	2.23×10^{-6}	-1.56×10^{-6}
[3, 2; 3]	4.03×10^{-5}	-5.26×10^{-5}	-0.000242	0.000102	7.39×10^{-5}	-4.82×10^{-5}	-5.17×10^{-6}	1.06×10^{-5}
[2, 3; 3]	6.00×10^{-5}	-0.000298	-0.00509	-0.0246	-0.0768	-0.186	-0.383	-0.697
[2, 2; 4]	3.93×10^{-5}	-3.90×10^{-5}	5.06×10^{-5}	-9.37×10^{-5}	0.000289	-0.00233	-0.0409	-0.186
[3, 2, 2; 0]	2.67×10^{-5}	-1.70×10^{-5}	1.11×10^{-5}	-7.41×10^{-6}	5.04×10^{-6}	-3.49×10^{-6}	2.45×10^{-6}	-1.74×10^{-6}
[2, 3, 3; 0]	3.83×10^{-5}	-3.57×10^{-5}	4.18×10^{-5}	-6.98×10^{-5}	0.000274	0.000698	7.63×10^{-5}	-0.000272
[2, 2, 2; 1]	3.28×10^{-5}	-2.26×10^{-5}	1.60×10^{-5}	-1.16×10^{-5}	8.58×10^{-6}	-6.48×10^{-6}	4.98×10^{-6}	-3.88×10^{-6}

5 Tables for D=6

Table 13: Singularities for all differential approximants in $D = 6$ in terms of $B_2\rho$, with the corresponding exponents immediately below. Defective approximants are marked with †, and the singularities are listed from left to right in order of their modulus.

Approximant	Singularity / Exponent		
$[4,3;0]$	-1.41	$-2.14 \pm 0.743\ i$	
	-0.572	$0.909 \mp 1.36\ i$	
$[3,4;0]^\dagger$	0.316	$-1.64 \pm 0.357\ i$	13.5
	1.36×10^{-7}	$0.947 \pm 0.960\ i$	-1.89
$[4,4;0]$	-1.11	$-1.67 \pm 0.619\ i$	32.2
	-0.0450	$0.852 \pm 0.115\ i$	-6.03
$[5,4;0]$	-1.06	$-1.66 \pm 0.576\ i$	-43.0
	-0.0273	$0.878 \pm 0.238\ i$	-17.4
$[4,5;0]$	-1.06	$-1.65 \pm 0.583\ i$	$12.2 \pm 13.3\ i$
	-0.0290	$0.869 \pm 0.217\ i$	$-0.854 \mp 1.36\ i$
$[3,2;1]$	-0.751	5.36	
	3.35	-0.0420	
$[2,3;1]$	-0.790	-13.2	19.4
	2.95	1.06	-2.59
$[3,3;1]$	-0.848	-3.58	34.2
	2.49	0.169	-6.55
$[4,3;1]$	-0.834	$-10.4 \pm 3.09\ i$	
	2.59	$-2.09 \mp 3.47\ i$	
$[3,4;1]$	-0.830	-4.69	$12.7 \pm 12.4\ i$
	2.67	0.295	$-0.890 \mp 1.24\ i$
$[2,2;2]$	-0.874	31.1	
	2.05	-5.82	
$[2,3;2]$	-0.885	$37.0 \pm 22.0\ i$	
	1.95	$-0.790 \mp 6.41\ i$	
$[3,2;2]$	-0.883	45.5	
	1.97	-13.6	
$[3,3;2]$	-0.604	-1.23	33.6
	5.02	-0.351	-6.35
$[2,2;3]$	-0.907	27.3	
	1.66	-4.60	
$[3,2;3]$	-0.805	-40.0	
	3.23	-5.97	
$[2,3;3]$	-0.811	$10.6 \pm 17.4\ i$	
	3.12	$-0.522 \mp 2.42\ i$	
$[2,2;4]$	-0.809	$154.$	
	3.13	-42.3	
$[2,2,2;0]$	-0.561	4.15	
	9.14	9.08	
$[3,2,2;0]$	-0.944	-12.4	
	1.19	18.7	
$[2,3,3;0]$	-0.807	-3.00	-1.35×10^3
	3.06	1.07	$543.$
$[2,2,2;1]$	-0.831	76.5	
	2.66	-17.1	

Table 14: Singularities for all Padé approximants in $D = 6$ in terms of $B_2\rho$, with the corresponding residues immediately below. Defective approximants are marked with †.

Approximant	Singularity / Residue			
[4/3]	-1.57	1.94	8.53	
	0.0309	0.00967	$-207.$	
[3/4]	-1.48	$7.01 \pm 4.39\ i$	-8.74	
	0.0199	$58.0 \mp 78.7\ i$	24.3	
[4/4]	-1.23	-2.50	$11.4 \pm 5.11\ i$	
	0.00403	0.220	$393. \mp 462.\ i$	
$[5/4]^\dagger$	-1.18	-2.21	$8.74 \pm 4.25\ i$	
	0.00247	0.129	$66.4 \mp 168.\ i$	
$[4/5]^\dagger$	-1.17	-2.17	$9.29 \pm 4.88\ i$	-27.2
	0.00236	0.120	$159. \mp 202.\ i$	$267.$

Table 15: Predicted coefficients for Padé and differential approximants which exactly reproduce the virial coefficients to B_9 or B_{10} in 6 dimensions. Defective approximants are marked with †.

	Predicted coefficients							
	B_{11}/B_2^{10}	B_{12}/B_2^{11}	B_{13}/B_2^{12}	B_{14}/B_2^{13}	B_{15}/B_2^{14}	B_{16}/B_2^{15}	B_{17}/B_2^{16}	B_{18}/B_2^{17}
[4/4]	0.000410	-0.000329	0.000265	-0.000214	0.000173	-0.000140	0.000114	-9.22×10^{-5}
$[5/4]^\dagger$	0.000427	-0.000353	0.000296	-0.000249	0.000211	-0.000178	0.000151	-0.000128
$[4/5]^\dagger$	0.000427	-0.000354	0.000298	-0.000252	0.000213	-0.000181	0.000154	-0.000131
$[4, 4; 0]$	0.000420	-0.000346	0.000289	-0.000243	0.000206	-0.000175	0.000150	-0.000129
$[5, 4; 0]$	0.000430	-0.000363	0.000313	-0.000273	0.000240	-0.000213	0.000189	-0.000169
$[4, 5; 0]$	0.000430	-0.000362	0.000311	-0.000270	0.000237	-0.000209	0.000185	-0.000165
$[3, 3; 1]$	0.000429	-0.000363	0.000316	-0.000282	0.000257	-0.000238	0.000224	-0.000214
$[4, 3; 1]$	0.000432	-0.000368	0.000323	-0.000290	0.000267	-0.000250	0.000237	-0.000229
$[3, 4; 1]$	0.000432	-0.000368	0.000323	-0.000291	0.000267	-0.000250	0.000238	-0.000230
$[3, 2; 2]$	0.000427	-0.000360	0.000312	-0.000276	0.000249	-0.000228	0.000212	-0.000199
$[2, 3; 2]$	0.000427	-0.000360	0.000311	-0.000275	0.000248	-0.000227	0.000211	-0.000199
$[3, 3; 2]$	0.000434	-0.000375	0.000339	-0.000321	0.000316	-0.000325	0.000346	-0.000382
$[2, 2; 3]$	0.000425	-0.000357	0.000308	-0.000270	0.000242	-0.000220	0.000203	-0.000189
$[3, 2; 3]$	0.000432	-0.000368	0.000324	-0.000293	0.000270	-0.000254	0.000244	-0.000237
$[2, 3; 3]$	0.000432	-0.000368	0.000323	-0.000291	0.000269	-0.000252	0.000241	-0.000234
$[2, 2; 4]$	0.000432	-0.000368	0.000324	-0.000292	0.000270	-0.000254	0.000243	-0.000236
$[3, 2, 2; 0]$	0.000423	-0.000353	0.000302	-0.000263	0.000233	-0.000209	0.000190	-0.000174
$[2, 3, 3; 0]$	0.000432	-0.000369	0.000325	-0.000293	0.000271	-0.000256	0.000245	-0.000239
$[2, 2, 2; 1]$	0.000432	-0.000368	0.000323	-0.000290	0.000267	-0.000250	0.000238	-0.000230

6 Tables for D=7

Table 16: Singularities for all differential approximants in $D = 7$ in terms of $B_2\rho$, with the corresponding exponents immediately below. Defective approximants are marked with †, and the singularities are listed from left to right in order of their modulus.

Approximant	Singularity / Exponent			
$[4,3;0]$	-1.00	$-1.56 \pm 0.427\ i$		
	-0.0527	$0.775 \pm 0.0594\ i$		
$[3,4;0]^{\dagger}$	0.787	-1.32	-1.57	16.5
	3.46×10^{-5}	-1.38	3.06	-1.68
$[4,4;0]$	-0.926	$-1.50 \pm 0.374\ i$	$191.$	
	-0.0214	$0.774 \pm 0.278\ i$	-26.8	
$[5,4;0]$	-0.886	$-1.49 \pm 0.312\ i$	-3.39	
	-0.0121	$0.820 \pm 0.530\ i$	-0.157	
$[4,5;0]$	-0.898	$-1.49 \pm 0.343\ i$	$10.5 \pm 21.3\ i$	
	-0.0147	$0.783 \pm 0.392\ i$	$-0.776 \mp 1.38\ i$	
$[3,2;1]$	-0.760	-3.03		
	2.36	0.134		
$[2,3;1]$	-0.693	-10.1	26.5	
	3.04	0.788	-2.23	
$[3,3;1]$	-0.726	-4.58	$133.$	
	2.67	0.144	-18.1	
$[4,3;1]$	-0.761	$-1.29 \pm 1.26\ i$		
	1.83	$0.0443 \pm 0.321\ i$		
$[3,4;1]$	-0.703	-5.79	7.88	16.1
	3.01	0.453	0.247	-2.09
$[2,2;2]$	-0.756	87.1		
	2.18	-11.3		
$[3,2;2]$	-0.756	12.8		
	2.16	-0.152		
$[2,3;2]$	-0.750	44.9	-52.2	
	2.27	-3.90	2.38	
$[3,3;2]$	-0.593	-1.32	$162.$	
	4.78	-0.218	-22.1	
$[2,2;3]$	-0.745	89.3		
	2.35	-12.0		
$[3,2;3]$	-0.635	-2.41		
	4.53	0.305		
$[2,3;3]$	-0.667	$10.1 \pm 5.34\ i$		
	4.07	$-0.220 \pm 0.296\ i$		
$[2,2;4]$	-0.687	-11.3		
	3.30	3.65		
$[2,2,2;0]$	$-0.260 \pm 0.710\ i$			
	$-12.2 \mp 5.11\ i$			
$[3,2,2;0]$	-0.923	38.1		
	0.440	$-175.$		
$[2,3,3;0]$	-0.641	-2.90	-14.7	
	4.67	0.317	10.7	
$[2,2,2;1]$	-0.703	-25.6		
	2.98	3.62		

Table 17: Singularities for all Padé approximants in $D = 7$ in terms of $B_2\rho$, with the corresponding residues immediately below. Defective approximants are marked with †.

Approximant	Singularity / Residue			
$[4/3]^{\dagger}$	-0.891	-1.80	13.8	
	0.000462	0.0918	$-692.$	
$[3/4]$	-1.27	-5.50	$7.24 \pm 5.61\ i$	
	0.0131	8.18	$57.2 \mp 70.2\ i$	
$[4/4]$	-1.08	-2.25	18.6	32.3
	0.00317	0.210	-3.49×10^3	9.41×10^3
$[5/4]^{\dagger}$	-1.04	-2.01	2.38	13.4
	0.00202	0.131	0.00478	$-636.$
$[4/5]^{\dagger}$	-1.01	-1.82	-10.9	$9.78 \pm 6.57\ i$
	0.00142	0.0783	49.9	$136. \mp 164.\ i$

Table 18: Predicted coefficients for Padé and differential approximants which exactly reproduce the virial coefficients to B_9 or B_{10} in 7 dimensions. Defective approximants are marked with †.

	Predicted coefficients							
	B_{11}/B_2^{10}	B_{12}/B_2^{11}	B_{13}/B_2^{12}	B_{14}/B_2^{13}	B_{15}/B_2^{14}	B_{16}/B_2^{15}	B_{17}/B_2^{16}	B_{18}/B_2^{17}
$[4/4]$	0.00134	−0.00123	0.00113	−0.00104	0.000956	−0.000882	0.000814	−0.000751
$[5/4]^{\dagger}$	0.00140	−0.00132	0.00126	−0.00121	0.00116	−0.00112	0.00108	−0.00104
$[4/5]^{\dagger}$	0.00142	−0.00136	0.00132	−0.00130	0.00128	−0.00126	0.00125	−0.00124
$[4,4;0]$	0.00141	−0.00135	0.00132	−0.00132	0.00132	−0.00134	0.00137	−0.00140
$[5,4;0]$	0.00143	−0.00139	0.00140	−0.00144	0.00150	−0.00157	0.00166	−0.00177
$[4,5;0]$	0.00142	−0.00139	0.00139	−0.00141	0.00145	−0.00151	0.00158	−0.00166
$[3,3;1]$	0.00141	−0.00137	0.00138	−0.00141	0.00148	−0.00159	0.00172	−0.00190
$[4,3;1]$	0.00143	−0.00139	0.00140	−0.00145	0.00152	−0.00162	0.00176	−0.00193
$[3,4;1]$	0.00143	−0.00139	0.00141	−0.00146	0.00155	−0.00168	0.00185	−0.00207
$[3,2;2]$	0.00141	−0.00136	0.00135	−0.00138	0.00143	−0.00151	0.00163	−0.00177
$[2,3;2]$	0.00141	−0.00136	0.00136	−0.00139	0.00144	−0.00153	0.00165	−0.00180
$[3,3;2]$	0.00143	−0.00141	0.00145	−0.00155	0.00171	−0.00194	0.00225	−0.00268
$[2,2;3]$	0.00141	−0.00137	0.00136	−0.00139	0.00145	−0.00154	0.00166	−0.00182
$[3,2;3]$	0.00143	−0.00141	0.00143	−0.00151	0.00163	−0.00181	0.00204	−0.00235
$[2,3;3]$	0.00143	−0.00140	0.00142	−0.00148	0.00158	−0.00172	0.00191	−0.00216
$[2,2;4]$	0.00143	−0.00140	0.00142	−0.00148	0.00158	−0.00172	0.00190	−0.00215
$[3,2,2;0]$	−0.000977	−0.00499	−0.00324	−0.00493	−0.00181	−0.00275	6.55×10^{-7}	−0.00142
$[2,3,3;0]$	0.00143	−0.00140	0.00143	−0.00150	0.00161	−0.00178	0.00200	−0.00229
$[2,2,2;1]$	0.00143	−0.00140	0.00141	−0.00146	0.00156	−0.00169	0.00186	−0.00208

7 Tables for D=8

Table 19: Singularities for all differential approximants in $D = 8$ in terms of $B_2\rho$, with the corresponding exponents immediately below. Defective approximants are marked with †, and the singularities are listed from left to right in order of their modulus.

Approximant	Singularity / Exponent			
$[4,3;0]^{\dagger}$	-0.300	-1.18	-1.43	
	-5.14×10^{-7}	-0.781	2.23	
$[3,4;0]$	-1.09	-1.51	2.20	17.6
	-0.300	1.80	0.00439	-1.51
$[4,4;0]$	-0.788	$-1.35 \pm 0.185\ i$	-77.7	
	-0.00578	$0.711 \pm 0.688\ i$	8.57	
$[5,4;0]$	-0.804	$-1.36 \pm 0.204\ i$	-14.2	
	-0.00754	$0.708 \pm 0.569\ i$	0.435	
$[4,5;0]$	-0.804	$-1.36 \pm 0.203\ i$	-25.1	68.7
	-0.00747	$0.708 \pm 0.576\ i$	1.69	-3.10
$[3,2;1]$	-0.664	-5.50		
	2.84	0.156		
$[2,3;1]$	-0.643	-8.62	33.4	
	3.12	0.565	-1.95	
$[3,3;1]$	-0.653	-6.87	83.0	
	2.98	0.303	-6.50	
$[4,3;1]$	0.286	-0.590	-3.79	
	3.83	4.83	0.246	
$[3,4;1]$	-0.622	2.12	-6.16	28.6
	3.64	0.175	0.488	-1.81
$[2,2;2]$	-0.699	$452.$		
	2.25	-39.8		
$[3,2;2]$	-0.621	-2.84		
	3.62	0.193		
$[2,3;2]$	-0.662	-11.7	36.2	
	2.81	0.630	-2.05	
$[3,3;2]$	-0.572	-1.73	$-306.$	
	4.59	0.0315	29.4	
$[2,2;3]$	-0.646	91.5		
	3.20	-8.73		
$[3,2;3]$	-0.574	-1.39		
	4.23	-0.132		
$[2,3;3]$	-0.562	2.17	27.6	
	6.02	3.02	-1.69	
$[2,2;4]$	-0.719	-2.16		
	1.03	-0.0997		
$[2,2,2;0]$	$-0.819 \pm 0.644\ i$			
	$-2.02 \mp 0.945\ i$			
$[3,2,2;0]$	-0.473	-2.89		
	10.8	-0.724		
$[2,3,3;0]$	-0.546	$-5.37 \pm 0.814\ i$		
	6.41	$4.71 \pm 18.5\ i$		
$[2,2,2;1]$	-0.636	-9.36		
	3.23	-0.531		

Table 20: Singularities for all Padé approximants in $D = 8$ in terms of $B_2\rho$, with the corresponding residues immediately below. Defective approximants are marked with †.

Approximant	Singularity / Residue			
[4/3]	-1.04	-2.29	21.3	
	0.00358	0.260	-2.04×10^3	
[3/4]	-1.16	-4.39	$7.59 \pm 6.85\ i$	
	0.00955	4.26	$64.1 \mp 71.2\ i$	
[4/4]†	-0.997	-2.04	17.9	-54.5
	0.00227	0.163	-1.00×10^3	6.21×10^3
[5/4]†	-0.708	-1.14	-2.46	21.1
	2.33×10^{-5}	0.00652	0.315	-1.96×10^3
[4/5]†	-0.920	-1.64	-7.79	$10.5 \pm 8.30\ i$
	0.000914	0.0568	22.3	$145. \mp 163.\ i$

Table 21: Predicted coefficients for Padé and differential approximants which exactly reproduce the virial coefficients to B_9 or B_{10} in 8 dimensions. Defective approximants are marked with †.

	Predicted coefficients							
	B_{11}/B_2^{10}	B_{12}/B_2^{11}	B_{13}/B_2^{12}	B_{14}/B_2^{13}	B_{15}/B_2^{14}	B_{16}/B_2^{15}	B_{17}/B_2^{16}	B_{18}/B_2^{17}
[4/4]†	0.00241	−0.00239	0.00238	−0.00238	0.00238	−0.00239	0.00240	−0.00240
[5/4]†	0.00258	−0.00281	0.00325	−0.00396	0.00505	−0.00666	0.00898	−0.0123
[4/5]†	0.00254	−0.00265	0.00281	−0.00301	0.00325	−0.00351	0.00381	−0.00414
[4, 4; 0]	0.00257	−0.00275	0.00304	−0.00345	0.00399	−0.00468	0.00555	−0.00662
[5, 4; 0]	0.00256	−0.00271	0.00297	−0.00333	0.00379	−0.00437	0.00508	−0.00594
[4, 5; 0]	0.00256	−0.00271	0.00297	−0.00333	0.00379	−0.00437	0.00509	−0.00596
[3, 3; 1]	0.00253	−0.00267	0.00290	−0.00324	0.00370	−0.00431	0.00512	−0.00617
[4, 3; 1]	0.00255	−0.00272	0.00296	−0.00342	0.00382	−0.00498	0.00491	−0.00922
[3, 4; 1]	0.00255	−0.00271	0.00297	−0.00336	0.00389	−0.00460	0.00556	−0.00682
[3, 2; 2]	0.00255	−0.00269	0.00295	−0.00333	0.00386	−0.00457	0.00551	−0.00676
[2, 3; 2]	0.00253	−0.00266	0.00288	−0.00321	0.00365	−0.00424	0.00501	−0.00601
[3, 3; 2]	0.00256	−0.00273	0.00303	−0.00348	0.00411	−0.00499	0.00619	−0.00783
[2, 2; 3]	0.00253	−0.00267	0.00290	−0.00324	0.00371	−0.00434	0.00516	−0.00623
[3, 2; 3]	0.00256	−0.00274	0.00304	−0.00350	0.00415	−0.00506	0.00630	−0.00802
[2, 3; 3]	0.00256	−0.00272	0.00300	−0.00341	0.00399	−0.00479	0.00587	−0.00733
[2, 2; 4]	0.00255	−0.00271	0.00296	−0.00332	0.00380	−0.00443	0.00523	−0.00626
[3, 2, 2; 0]	0.00256	−0.00274	0.00306	−0.00353	0.00420	−0.00515	0.00648	−0.00834
[2, 3, 3; 0]	0.00256	−0.00273	0.00302	−0.00346	0.00407	−0.00492	0.00609	−0.00768
[2, 2, 2; 1]	0.00255	−0.00271	0.00297	−0.00335	0.00387	−0.00457	0.00549	−0.00671