

Electronic Supplementary Information 11

Non-identical Electronic Characters of the Internucleotidic Phosphates in RNA Modulate the Chemical Reactivity of the Phosphodiester Bonds

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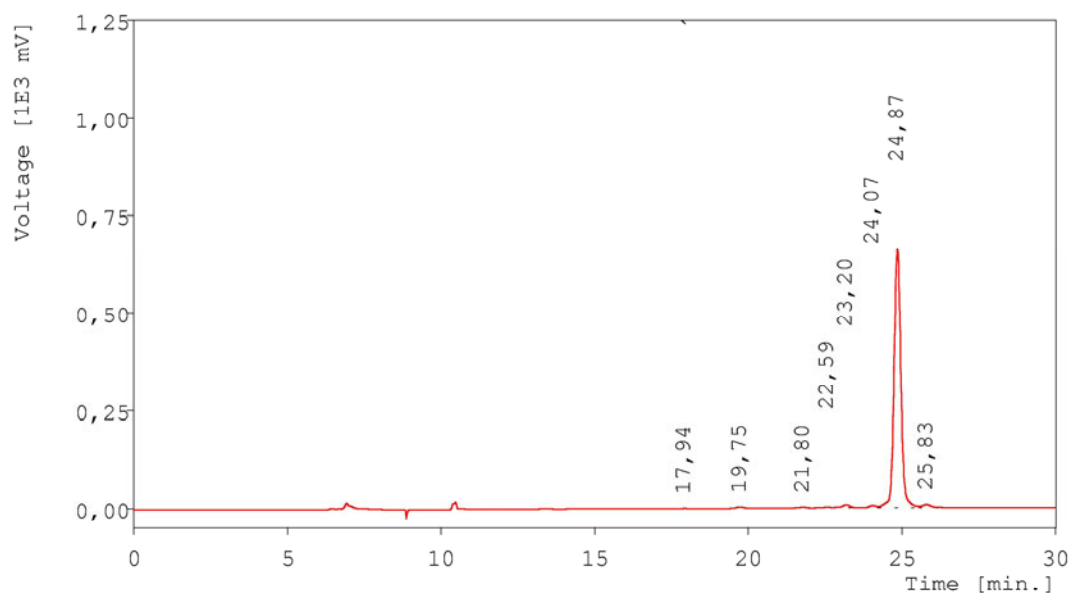
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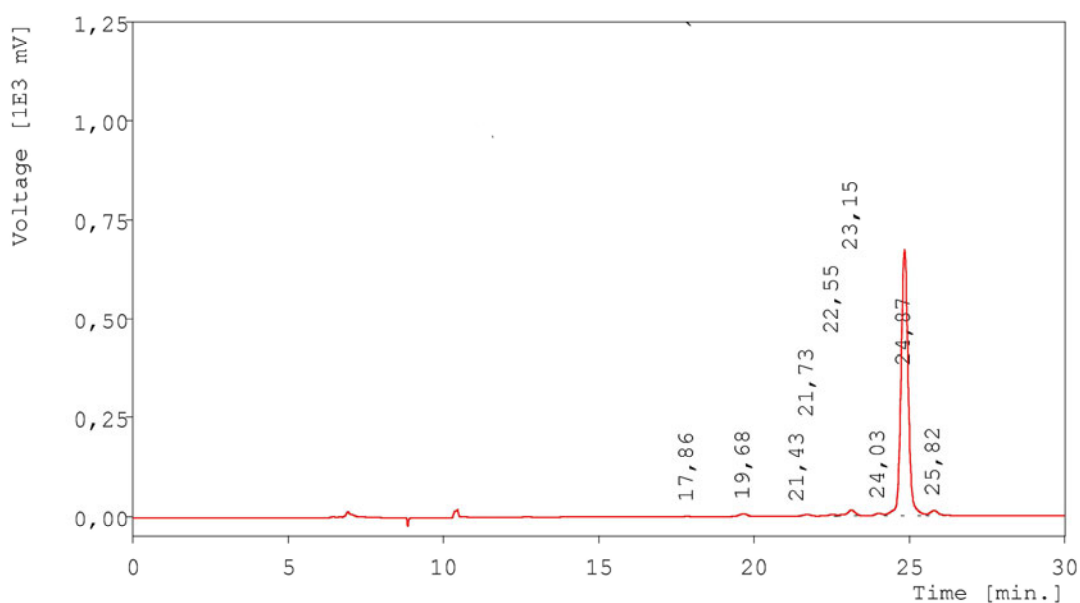
Figure S15G. Panels (g1) – (g7) show the RP-Hplc and SMART™ RP-Hplc profiles at ½, 2, 3, 4, 8, 15, 27 of alkali digestion of N^{1-Me}-G containing heptamer . 5'-r(CACG^{Me}CAC)-3' (8c). **p. S2–S8**



Result Table - Calculation Method Uncal

Peak No.	Reten. time	Area [mV.s]	Height [mV]	W05 [min.]	Area [%]	Height [%]
1	17,940	10,8943	0,755	0,247	0,100	0,109
2	19,747	57,8582	3,325	0,280	0,531	0,478
3	21,800	28,2681	1,877	0,247	0,259	0,270
4	22,587	27,6189	2,035	0,240	0,253	0,293
5	23,200	153,0104	7,824	0,267	1,404	1,126
6	24,067	97,2505	6,063	0,300	0,892	0,872
7	24,873	10309,4056	664,582	0,240	94,578	95,607
8	25,827	216,1206	8,658	0,347	1,983	1,245
-	Total	10900,4265	695,118			

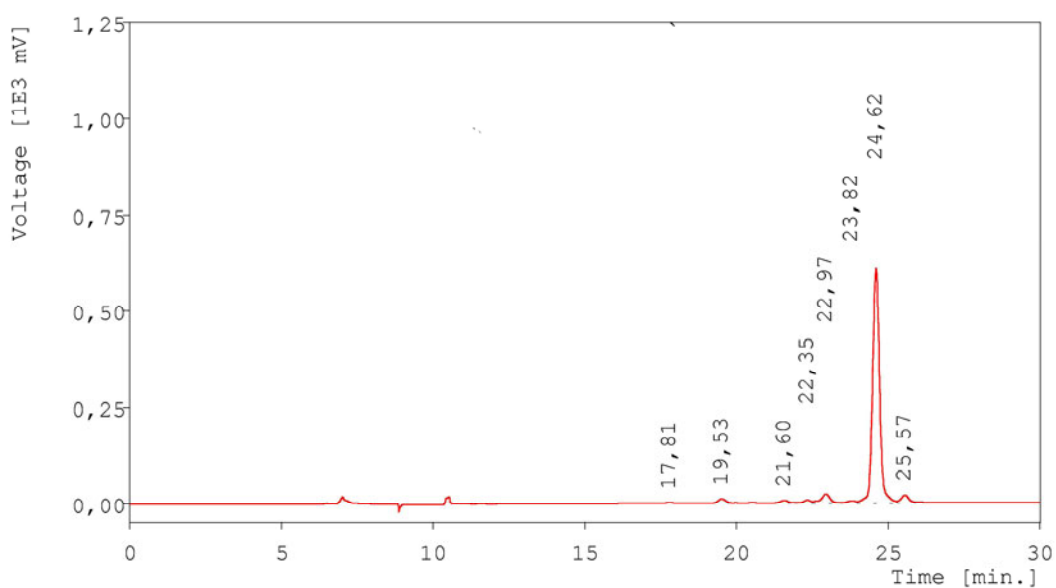
Figure S15(g1): RP-Hplc analysis of alkaline Hydrolysis products of **5'-r(CACG^{Me}CAC)-3' (8c)** [after digestion for **0.5h** at pH 12.5 using 0.03N NaOH/ 20°C, followed by quenching with 0.03 N aq. acetic acid]. For Hplc conditions see the experimental section in the text.



Result Table - Calculation Method Uncal

Peak No.	Reten. time	Area [mV.s]	Height [mV]	W05 [min.]	Area [%]	Height [%]
1	17,860	11,7804	0,731	0,260	0,100	0,101
2	19,680	113,2888	6,279	0,287	0,962	0,865
3	21,433	44,9898	0,333	0,520	0,382	0,046
4	21,727	62,3310	3,862	0,260	0,529	0,532
5	22,547	61,4830	4,169	0,273	0,522	0,575
6	23,153	288,4676	14,749	0,260	2,450	2,033
7	24,033	108,5148	6,449	0,320	0,922	0,889
8	24,867	10786,8465	675,370	0,247	91,622	93,084
9	25,820	295,5221	13,610	0,293	2,511	1,875
-	Total	11773,2240	725,551			

Figure S15(g2): RP-Hplc analysis of alkaline Hydrolysis products of 5'-r(CACG^{Me}CAC)-3' (**8c**) [after digestion for 2h at pH 12.5 using 0.03N NaOH/ 20°C, followed by quenching with 0.03 N aq. acetic acid]. For Hplc conditions see the experimental section in the text.

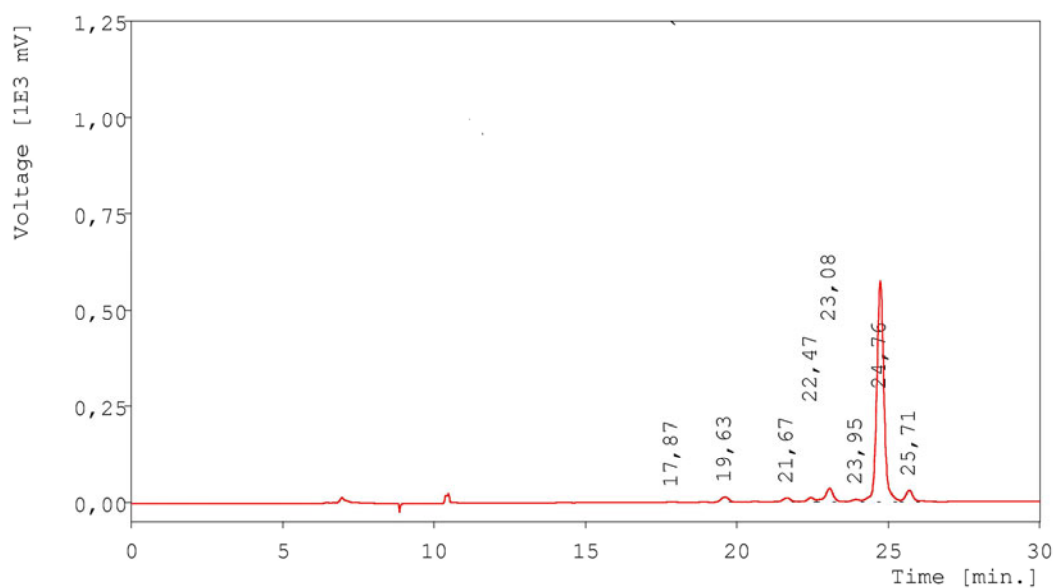


Result Table - Calculation Method Uncal

Peak No.	Reten. time	Area [mV.s]	Height [mV]	W05 [min.]	Area [%]	Height [%]
1	17,807	28,6086	1,922	0,247	0,254	0,279
2	19,533	183,1191	10,975	0,267	1,625	1,593
3	21,600	112,8508	6,959	0,260	1,001	1,010
4	22,353	111,4285	7,711	0,247	0,989	1,119
5	22,967	473,9428	23,981	0,280	4,205	3,480
6	23,820	99,1979	5,622	0,320	0,880	0,816
7	24,620	9841,0296	610,969	0,240	87,304	88,663
8	25,573	421,9468	20,954	0,273	3,742	3,040
-	Total	11272,1239	689,093			

Figure S15(g3): RP-Hplc analysis of alkaline Hydrolysis products of **5'-r(CACG^{Me}CAC)-3' (8c)** [after digestion for **3h** at pH 12.5 using 0.03N NaOH/ 20°C, followed by quenching with 0.03 N aq. acetic acid]. For Hplc conditions see the experimental section in the text.

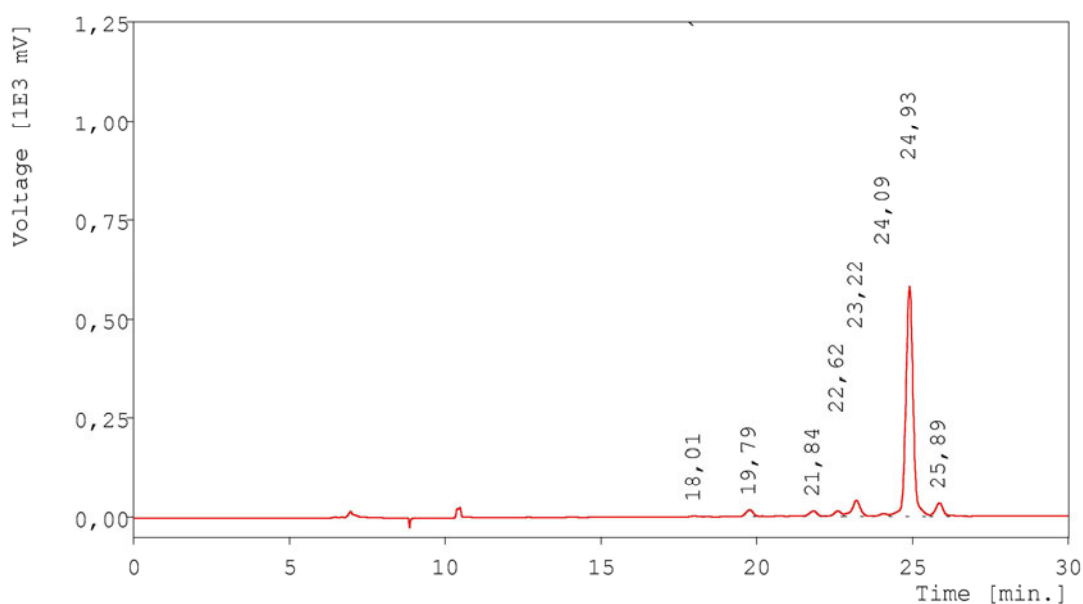
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Result Table - Calculation Method Uncal

Peak No.	Reten. time	Area [mV.s]	Height [mV]	W05 [min.]	Area [%]	Height [%]
1	17,873	24,5523	1,470	0,273	0,214	0,216
2	19,627	255,6219	13,181	0,293	2,223	1,938
3	21,673	278,3389	10,872	0,287	2,421	1,598
4	22,467	190,9393	11,356	0,267	1,661	1,670
5	23,080	662,4926	33,490	0,273	5,762	4,924
6	23,953	116,2903	6,368	0,313	1,011	0,936
7	24,760	9446,0471	575,768	0,247	82,152	84,647
8	25,713	523,9513	27,693	0,267	4,556	4,071
-	Total	11498,2338	680,198			

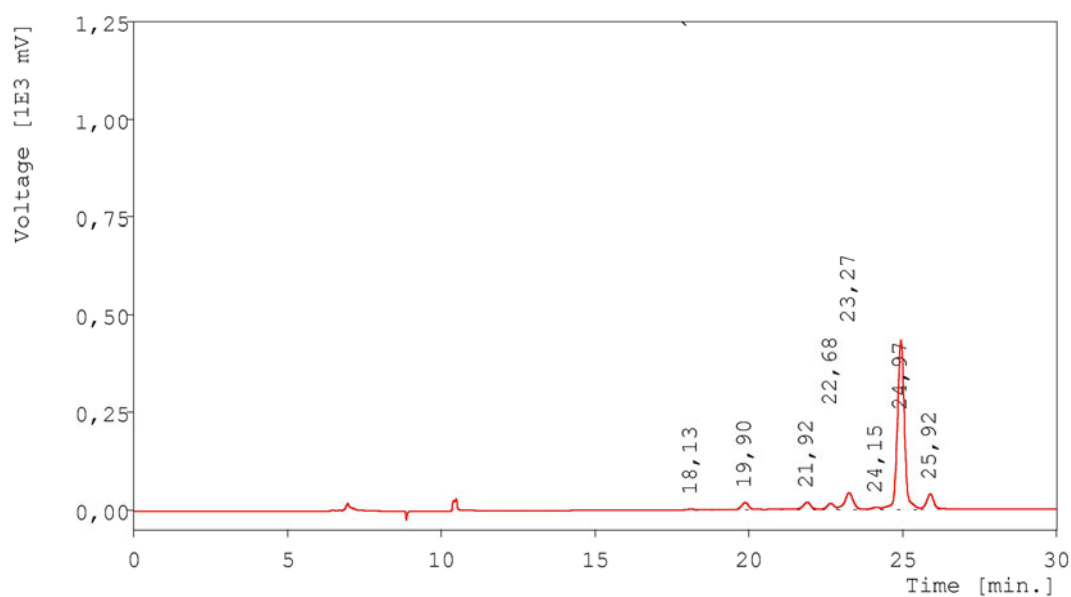
Figure S15(g4): RP-Hplc analysis of alkaline Hydrolysis products of 5'-r(CACG^{Me}CAC)-3' (**8c**) [after digestion for 4h at pH 12.5 using 0.03N NaOH/ 20°C, followed by quenching with 0.03 N aq. acetic acid]. For Hplc conditions see the experimental section in the text.



Result Table - Calculation Method Uncal

Peak No.	Reten. time	Area [mV.s]	Height [mV]	W05 [min.]	Area [%]	Height [%]
1	18,007	45,8503	2,473	0,253	0,387	0,347
2	19,793	306,7801	17,166	0,267	2,592	2,410
3	21,840	337,6832	14,069	0,280	2,853	1,975
4	22,620	236,8870	13,891	0,267	2,001	1,950
5	23,220	787,4155	40,803	0,267	6,653	5,728
6	24,093	122,6511	6,807	0,313	1,036	0,956
7	24,927	9386,8244	582,871	0,240	79,305	81,831
8	25,887	612,2792	34,204	0,260	5,173	4,803
-	Total	11836,3707	712,286			

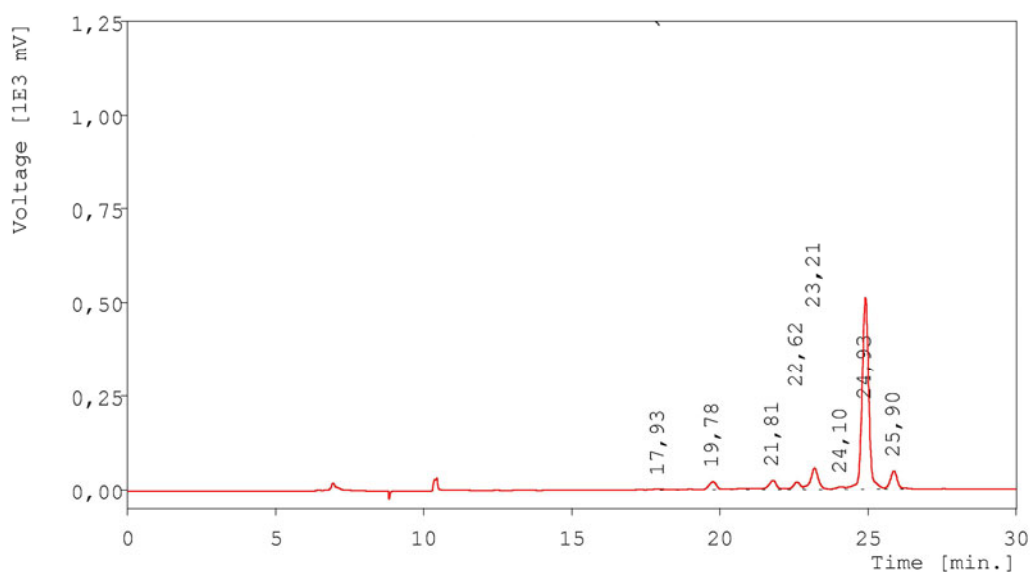
Figure S15(g5): RP-Hplc analysis of alkaline Hydrolysis products of 5'-r(CACG^{Me}CAC)-3' (**8c**) [after digestion for **8h** at pH 12.5 using 0.03N NaOH/ 20°C, followed by quenching with 0.03 N aq. acetic acid]. For Hplc conditions see the experimental section in the text.



Result Table - Calculation Method Uncal

Peak No.	Reten. time	Area [mV.s]	Height [mV]	W05 [min.]	Area [%]	Height [%]
1	18,133	67,5459	2,363	0,413	0,700	0,409
2	19,900	372,6698	18,608	0,267	3,862	3,221
3	21,920	479,4366	18,988	0,267	4,969	3,287
4	22,680	260,2516	16,015	0,260	2,697	2,772
5	23,273	847,9306	43,107	0,280	8,788	7,462
6	24,153	99,4852	5,585	0,300	1,031	0,967
7	24,967	6856,9093	433,892	0,240	71,065	75,111
8	25,920	664,5381	39,113	0,253	6,888	6,771
-	Total	9648,7671	577,671			

Figure S15(g6): RP-Hplc analysis of alkaline Hydrolysis products of 5'-r(CACG^{Me}CAC)-3' (**8c**) [after digestion for 15h at pH 12.5 using 0.03N NaOH/ 20°C, followed by quenching with 0.03 N aq. acetic acid]. For Hplc conditions see the experimental section in the text.



Result Table - Calculation Method Uncal

Peak No.	Reten. time	Area [mV.s]	Height [mV]	W05 [min.]	Area [%]	Height [%]
1	17,933	125,6006	3,076	0,367	1,077	0,442
2	19,780	452,0388	21,309	0,287	3,875	3,060
3	21,807	658,9611	24,844	0,273	5,649	3,567
4	22,620	331,5840	20,401	0,253	2,842	2,930
5	23,213	1067,7087	57,438	0,267	9,153	8,248
6	24,100	135,3010	6,982	0,313	1,160	1,003
7	24,933	7992,5623	513,131	0,233	68,516	73,683
8	25,900	901,5622	49,218	0,253	7,728	7,067
-	Total	11665,3186	696,399			

Figure S15(g7): RP-Hplc analysis of alkaline Hydrolysis products of **5'-r(CACG^{Me}CAC)-3' (8c)** [after digestion for **27h** at pH 12.5 using 0.03N NaOH/ 20°C, followed by quenching with 0.03 N aq. acetic acid]. For Hplc conditions see the experimental section in the text.