

Table S1. Statistically significant results of seminological studies, molecular analyzes of the polymorphisms of the genes located on chromosome 5 (IL-4v.C589T (rs2243250), activity of antioxidant enzymes (superoxide dismutase SOD, catalase CAT, glutathione peroxidase GPx, and glutathione reductase GR), concentration chemical elements (Ca, Mg, Na, P, Mn, Fe, Zn, Mo, Li, V, Co, Ag, Ba, Ti, Tl, Sr, Al, Sn, Ni, B, Hg, Cd, As, Be) and the intensity of lipoperoxidation (concentration of malondialdehyde MDA) in healthy controls and men with fertility disorders.

Survey number	Group	Seminological study	IL-4 C589T	SOD [U·mL ⁻¹]	CAT [nmol·min ⁻¹ ·mL ⁻¹]	GPx [nmol·min ⁻¹ ·mL ⁻¹]	GR [nmol·min ⁻¹ ·mL ⁻¹]	MDA [μM]	Ca [mg·L ⁻¹]	Mg [mg·L ⁻¹]	Na [mg·L ⁻¹]	P [mg·L ⁻¹]	Mn [mg·L ⁻¹]	Fe [mg·L ⁻¹]	Zn [mg·L ⁻¹]	Mo [mg·g·L ⁻¹]	Li [mg·L ⁻¹]	V [mg·L ⁻¹]	Co [mg·g·L ⁻¹]	Ag [mg·L ⁻¹]	Ba [mg·L ⁻¹]	Ti [mg·L ⁻¹]	Tl [mg·g·L ⁻¹]	Sr [mg·L ⁻¹]	Al [mg·L ⁻¹]	Sn [mg·L ⁻¹]	Ni [mg·L ⁻¹]	B [mg·L ⁻¹]	Hg [mg·g·L ⁻¹]	Cd [mg·g·L ⁻¹]	As [mg·L ⁻¹]	Be [mg·L ⁻¹]	
4	Healthy	normozoospermia							57.7	40.2	17.96	34.1	0.027	54.5	10.096	0.01755	0.151	0.004	0.004036	0.001	0.0058	0.0016	0.000261	0.0028	0.953	0.062	0.008	2.438	0.002975	0.000337	0.016	0	
5	Healthy	normozoospermia							50.1	38.9	16.52	34.7	0.029	52.0	6.753	0.011604	0.184	0.002	0.001234	0	0.0082	0.0027	0.000174	0.0019	1.38	0.051	0.025	2.417	0.002468	0.000388	0.013	0	
6	Healthy	normozoospermia							51.7	39.4	17.20	35.1	0.026	56.7	10.833	0.010723	0.183	0.003	0.00505	0	0.0062	0.0026	0.00014	0.0011	0.748	0.044	0.019	2.24	0.002887	0.000365	0.002	0	
7	Healthy	normozoospermia																															
8	Infertile	azoospermia							47.6	35.7	15.79	35.4	0.015	54.4	9.905	0.008834	0.178	0.003	0.003444	0	0.0048	0.0017	0.000289	0.0017	0.734	0.035	0.009	2.129	0.00272	0.000276	0.014	0.0047	
9	Healthy	normozoospermia							54.9	37.9	18.70	34.0	0.023	53.0	9.041	0.011521	0.167	0.003	0.004494	0	0.0072	0.002	0.00027	0.0013	0.858	0.037	0.014	2.389	0.002297	0.00026	0.014	0	
10	Healthy	normozoospermia							59.5	37.1	19.41	37.5	0.016	54.8	8.836	0.008184	0.154	0.004	0.004009	0	0.0092	0.0023	0.000166	0.0029	1.032	0.036	0.01	2.241	0.003371	0.000737	0.015	0	
11	Infertile	azoospermia		0.393	18.1	8.321	99.5	2.454	55.7	38.8	18.71	35.7	0.019	56.4	10.392	0.007768	0.195	0.004	0.004453	0	0.0089	0.0039	0.000175	0.0014	0.937	0.034	0.015	2.044	0.002969	0.0001816	0.014	0	
12	Healthy	normozoospermia		0.149	130.402	5.094	20.715	28.357	43.7	35.9	16.18	35.4	0.022	56.4	10.232	0.007396	0.175	0.004	0.004073	0	0.0058	0.0028	0.000143	0.0016	0.742	0.034	0.024	1.851	0.002667	0.000475	0.015	0	
13	Healthy	normozoospermia		0.382	39.1	0	18.677		47.1	36.7	16.78	33.0	0.018	55.7	8.24	0.007022	0.147	0.003	0.003967	0	0.0099	0.0022	0.000112	0.0012	0.973	0.036	0.01	1.93	0.00345	0.00053	0.015	0	
14	Healthy	normozoospermia			29.061	0			55	36.5	17.07	32.7	0.018	55.8	10.557	0.006101	0.217	0.005	0.00049	0	0.0067	0.0023	0.000153	0.0027	0.949	0.055	0.018	2.074	0.001797	0.000262	0.016	0	
15	Inf	oligozoo		0.2	40.56	1.019	19.69	16.	55.	40.	17	38	0.0	63	10.	0.0	0.1	0.0	0.0	0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.9	0.0	0.0	0.0	0	

	erti le	spermia		05	6		6	929	3	7	98	1	19	1	93 9	052 29	88	06	045 63		85	28	002 08	19	46	59	09	36	025 92	015 95	17	
16	He alt hy	normozo spermi a		0.0 35	48.11 3	0.509	21.22 4	53. 857	46. 4	33. 5	16 36	34 0	0.0 19	52 7	6.6 03	0.0 057 71	0.1 86	0.0 03	0.0 006 56	0	0.0 69	0.0 3	0.0 000 98	0.0 17	1.0 79	0.0 36	0.0 12	1.7 72	0.0 030 77	0.0 003 46	0.0 13	0
17	He alt hy	normozo spermi a		0.1 59	157.0 74	2.038	18.16 8	70. 5	41. 4	36. 5	17 00	34 2	0.0 23	59 0	11. 2	0.0 084 75	0.1 54	0.0 05	0.0 009 73	0	0.0 64	0.0 28	0.0 001 98	0.0 28	0.9 84	0.0 65	0.0 31	1.8 83	0.0 026 92	0.0 002 41	0.0 14	0
18	Inf erti le	asthenoz oosperm ia		0.0 05	40.27 2	3.056	13.58 4	25. 5	55. 2	39. 4	18 39	33 4	0.0 18	48 8	8.9 19	0.0 074 83	0.2 11	0.0 04	0.0 043 73	0	0.0 57	0.0 27	0.0 001 49	0.0 29	0.9 27	0.0 69	0.0 1	1.7 3	0.0 024 48	0.0 002 59	0.0 14	0
19	He alt hy	normozo spermi a		0.0 61	49.57 8	2.547	33.45	55. 5	57. 5	35. 8	17 37	35 2	0.0 2	56 7	10. 2	0.0 048 08	0.1 95	0.0 05	0.0 043 04	0	0.0 68	0.0 42	0.0 001 52	0.0 19	1.0 28	0.0 54	0.0 09	1.5 84	0.0 028 69	0.0 027 7	0.0 17	0
20	He alt hy	normozo spermi a		0.3 38	116.2 59	2.547	23.26 2	118 .35 7	58. 5	34. 4	18 13	33 4	0.0 25	50 6	6.5 75	0.0 067 28	0.1 84	0.0 04	0.0 006 47	0	0.0 56	0.0 28	0.0 001 3	0.0 39	0.8 38	0.0 33	0.0 18	1.6 3	0.0 022 32	0.0 003 8	0.0 16	0.0 03 4
21	He alt hy	normozo spermi a		0.1 69	20.19 5	4.075	25.80 9	69. 786	50. 9	34. 9	17 54	33 7	0.0 18	51 7	10. 3	0.0 042 6	0.2 16	0.0 05	0.0 005 49	0	0.0 58	0.0 22	0.0 001 31	0.0 22	0.8 8	0.0 53	0.0 12	1.6 07	0.0 030 28	0.0 005 12	0.0 18	0
22	He alt hy	normozo spermi a		0.3 72	25.10 4	0.509	18.67 7	94. 071	55. 1	37. 2	18 23	34 3	0.0 22	54 9	6.6 13	0.0 038 59	0.1 73	0.0 04	0.0 010 08	0	0.0 7	0.0 19	0.0 000 72	0.0 44	1.2 27	0.0 41	0.0 41	1.7 88	0.0 021 27	0.0 003 92	0.0 14	0.0 01 7
23	Inf erti le	asthenoz oosperm ia		0.1 37	30.89 3	5.094	12.56 5	40. 5	48. 6	39. 3	17 23	36 9	0.0 26	53 6	7.2 66	0.0 045 75	0.2 12	0.0 04	0.0 005 8	0	0.0 53	0.0 27	0.0 001 54	0.0 15	0.7 75	0.0 48	0.0 11	1.6 38	0.0 020 02	0.0 002 66	0.0 14	0
24	He alt hy	normozo spermi a		0.4 3	49.87 2	0	19.69 6	7.6 43	53. 4	36. 8	18 26	33 3	0.0 17	50 0	9.3 52	0.0 042 37	0.1 99	0.0 06	0.0 006 93	0	0.0 66	0.0 4	0.0 001 18	0.0 15	0.9 19	0.0 51	0.0 13	1.5 33	0.0 020 31	0.0 005 48	0.0 17	0
25	He alt hy	normozo spermi a		0.4 88	50.97 1	0.509	17.65 9	5.5	60. 3	37. 1	18 81	33 4	0.0 25	53 1	9.3 97	0.0 032 07	0.1 37	0.0 04	0.0 047 06	0	0.0 6	0.0 19	0.0 001 63	0.0 23	1.0 17	0.0 7	0.0 11	1.6 34	0.0 018 82	0.0 005 51	0.0 16	0
26	He alt hy	normozo spermi a							61. 1	36. 9	17 48	34 4	0.0 21	58 1	11. 9	0.0 045 39	0.1 89	0.0 06	0.0 051 2	0	0.0 52	0.0 26	0.0 001 76	0.0 2	1.0 26	0.0 54	0.0 11	1.6 73	0.0 021 92	0.0 006 55	0.0 16	0
27	He alt hy	normozo spermi a		0.0 58	59.17 8	1.019	18.67 7	0.2 14	56. 2	34. 3	17 46	36 2	0.0 23	53 2	9.3 66	0.0 041 47	0.1 94	0.0 04	0.0 003 24	0	0.0 57	0.0 73	0.0 002 18	0.0 17	0.8 17	0.0 62	0.0 08	1.7 31	0.0 023 47	0.0 004 01	0.0 13	0
28	He alt hy	normozo spermi a		0.3 11	41.29 8	3.566	11.03 7	0.5	49. 5	34	16 42	34 0	0.0 18	52 8	6.1 54	0.0 042 52	0.1 65	0.0 03	0.0 002 92	0	0.0 71	0.0 29	0.0 001 62	0.0 12	0.8 85	0.0 49	0.0 1	1.5 31	0.0 017 49	0.0 007 03	0.0 15	0
29	He	normozo		0.0	64.6	4.584	33.45	3.0	58.	39.	18	33	0.0	55	7.1	0.0	0.1	0.0	0.0	0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	1.5	0.0	0.0	0.0	0.0

	alt hy	ospermi a		3				71	3	6	71	7	23	8	91	033 27	89	04	032 53		3	29	001 46	21	18	66	09	28	019 15	002 73	11	01 7
30	He alt hy	normozo ospermi a	TT	0.6	14.91 9	1.019	22.75 2	0.2 14		35. 46	17 45	34 8	0.0 18	51 3	6.0 2	0.0 025 43	0.1 58	0.0 03	0.0 003 24		0.0 49	0.0 2	0.0 001 31	0.0 15	0.6 3	0.0 33	0.0 1	1.4 29	0.0 018 77	0.0 004 87	0.0 13	0
31	Inf erti le	Combin ed	TT	0.2 39	23.85 9	0.509	19.18 7	1.2 14	57. 4	40. 6	15 85	36 1	0.0 22	58 0	8.4 03	0.0 033 29	0.2 08	0.0 04	0.0 039 43		0.0 61	0.0 21	0.0 001 01	0.0 13	0.7 08	0.0 67	0.0 08	1.5 44	0.0 020 15	0.0 016 69	0.0 14	0
32	He alt hy	normozo ospermi a		0.3 77	28.62 2	0.509	21.73 4	32. 643	47. 3	38. 4	17 83	34 5	0.0 22	55 9	8.3 41	0.0 021 77	0.2 09	0.0 04	0.0 038 67	0.0 02	0.0 42	0.0 19	0.0 001 31	0.0 1	0.6 42	0.0 63	0.0 18	1.4 81	0.0 017 31	0.0 001 26	0.0 14	0
34	Inf erti le	OAT		0.5 93	27.74 2	0.509	19.69 6	3.3 57		36. 49	19 37	31 4	0.0 28	52 8	8.4 49	0.0 042 21	0.2 25	0.0 04	0.0 026 28		0.3 72	0.0 28	0.0 001 29	0.0 32	2.0 09	0.0 79	0.0 14	1.6 16	0.0 020 23	0.0 004 34	0.0 14	0
35	He alt hy	normozo ospermi a	TT	0.6 15	66.35 9	0.509	20.71 5		44. 5	36. 1	17 31	34 1	0.0 14	52 2	12. 6	0.0 065 64	0.2 08	0.0 04	0.0 005 79		0.6 2	0.0 23	0.0 000 59	0.0 42	0.6 18	0.0 62	0.0 1	1.4 74	0.0 023 28	0.0 002 34	0.0 17	0
36	Inf erti le	polyzoo spermia		0.6 6	63.79 4	0.509	21.22 4		52. 4		16 76	30 9	0.0 23	53 5	9.1 24	0.0 038 47	0.1 56	0.0 03	0.0 004 37		0.3 78	0.0 27	0.0 000 84	0.0 24	0.6 65	0.2 41	0.0 11	1.5 66	0.0 024 02	0.0 002 07	0.0 13	0
37	He alt hy	normozo ospermi a		0.0 73	66.21 2	3.056	21.05 5		55. 3	32. 9	17 45	33 7	0.0 15	52 0	9.0 15	0.0 070 54	0.1 83	0.0 04	0.0 004 51		0.3 41	0.0 23	0.0 001 72	0.0 21	0.7 77	0.0 64	0.0 09	1.4 21	0.0 019 64	0.0 005 21	0.0 16	0
38	Inf erti le	asthenoz osperm ia	TT	0.5 65	24.22 5	0	19.69 6	18. 357	48. 6	34. 4	18 93	33 3	0.0 2	48 0	10. 5	0.0 088 94	0.2 1	0.0 02	0.0 003 55		0.4 09	0.0 27	0.0 001 9	0.0 31	0.7 73	0.0 74	0.0 35	1.6 27	0.0 044 44	0.0 002 75	0.0 09	0.0 01 7
39	He alt hy	normozo ospermi a		0.2 05	37.12 2	6.113	29.37 4	3.7 86	54. 9	35. 5	17 15	33 9	0.0 16	53 9	9.7 62	0.0 088 75	0.1 96	0.0 02	0.0 003 53		0.3 8	0.0 43	0.0 001 16	0.0 28	0.9 01	0.0 65	0.0 18	1.3 79	0.0 018 91	0.0 002 96	0.0 09	0
40	He alt hy	normozo ospermi a		0.0 88	41.29 8	4.075	18.16 8	2.6 43	49. 5	35. 7	17 94	33 6	0.0 22	56 1	8.8 5	0.0 055 15	0.1 93	0.0 04	0.0 003 85		0.4 05	0.0 32	0.0 000 87	0.0 28	0.6 18	0.0 47	0.0 1	1.4 45	0.0 017 66	0.0 003 78	0.0 11	0
41	He alt hy	normozo ospermi a	C C	0.4 08	52.21 6	1.019	23.26 2	15. 5	51. 9	33. 8	17 46	34 0	0.0 25	54 0	8.9 21	0.0 058 79	0.1 72	0.0 03	0.0 002 29		0.3 51	0.0 35	0.0 000 88	0.0 27	0.7 92	0.0 44	0.0 08	1.3 94	0.0 018 06	0.0 002 34	0.0 12	0.0 01 7
42	He alt hy	normozo ospermi a		0.4 3	23.93 2	0.509	12.90 4	19. 571	40. 6		16 66	32 3	0.0 17	49 2	8.7 29	0.0 050 04		0.0 02	0.0 017 46		0.3 5	0.0 14	0.0 001 45	0.0 23	0.8 36	0.0 37	0.0 36	1.4 17	0.0 024 75	0.0 002 94	0.0 17	0
43	He alt hy	normozo ospermi a	C C	0.2 97	39.68 6	0	11.88 6		43. 8	41. 3	16 67	35 0	0.0 24	54 1	8.3 19	0.0 042 78	0.2 15	0.0 03	0.0 003 99		0.2 79	0.0 19	0.0 000 83	0.0 21	0.6 69	0.0 36	0.0 11	1.3 49	0.0 026 62	0.0 002 98	0.0 12	0
44	Inf	Combin	C	0.6	176.9	1.019	15.62	209	47	30.	17	29	0.0	47	10.	0.0	0.2	0.0	0.0	0	0.3	0.0	0.0	0.0	0.6	0.0	0.0	1.3	0.0	0.0	0.0	0

	erti le	ed	C	68	32		1	.78 6		4	88	0	18	9	41 2	059 75	01	03	026 66		1	2	001 64	22	46	37	12	44	020 81	005 78	13	
45	He alt hy	normozo spermi a	TT	0.0 02	82.18 6	9.678	31.92 1	3.7 86	54. 7	32. 5	17 28	31 8	0.0 16	50 9	8.3 05	0.0 050 72	0.2 21	0.0 04	0.0 003 75	0	0.3 04	0.0 22	0.0 000 46	0.0 18	0.6 3	0.0 38	0.0 07	1.2 02	0.0 017 92	0.0 001 55	0.0 12	0
46	He alt hy	normozo spermi a	TT	1.2 42	27.15 6	1.019	14.09 3	12. 357	31. 48	16 7	30 27	0.0 9	51 24	8.4 8	0.0 62	0.0 030 09	0.2 03	0.0 04	0.0 004 12	0	0.3 32	0.0 18	0.0 001 08	0.0 45	0.7 14	0.0 42	0.1 52	1.1 94	0.0 033 44	0.0 002 65	0.0 13	0.0 01 8
47	Inf erti le	oligozoo spermia		0.1 36	40.85 9	1.019	14.94 2	0.9 29	58. 6	36 36	18 50	35 2	0.0 15	48 7	7.9 77	0.0 046 62	0.1 96	0.0 04	0.0 004 7	0	0.3 23	0.0 32	0.0 001 22	0.0 27	0.6 76	0.0 39	0.0 22	1.2 67	0.0 016 77	0.0 003 3	0.0 12	0
48	He alt hy	normozo spermi a	TT	0.1 03	49.43 2	0.509	25.29 9	124 .78 6	51. 4	37. 1	16 71	38 0	0.0 25	54 3	8.8 98	0.0 041 72	0.1 65	0.0 03	0.0 018 75	0.0 01	0.2 95	0.0 23	0.0 001 95	0.0 22	0.5 85	0.0 39	0.0 14	1.2 79	0.0 016 63	0.0 003 49	0.0 12	0.0 01 8
49	Inf erti le	OAT	TT	0.4 25	37.19 5	2.038	17.14 9	6.2 14	36. 46	17 1	34 67	0.0 2	50 19	9.2 2	0.0 08	0.0 043 91	0.1 82	0.0 04	0.0 004 55	0	0.3 5	0.0 25	0.0 001 25	0.0 5	0.6 68	0.0 55	0.0 07	1.1 87	0.0 035 71	0.0 003 27	0.0 13	0
50	He alt hy	normozo spermi a	TT	0.5 52	22.75 9	1.528	14.09 3	1.6 43	58. 2	38. 3	17 62	35 3	0.0 24	54 8	9.6 81	0.0 031 91	0.1 82	0.0 05	0.0 011 65	0	0.3 33	0.0 2	0.0 002 08	0.0 3	0.7 14	0.0 38	0.0 37	1.2 75	0.0 018 1	0.0 004 35	0.0 15	0
51	He alt hy	normozo spermi a	TT	0.5 79	55.14 7	0.509	15.62 1	94. 786	51. 5	39. 9	18 19	36 3	0.0 2	55 5	9.2 35	0.0 033 86	0.2 18	0.0 02	0.0 024 9	0	0.3 06	0.0 25	0.0 000 63	0.0 25	0.8 06	0.0 38	0.0 24	1.2 81	0.0 017 54	0.0 002 29	0.0 13	0
52	He alt hy	normozo spermi a	TT	0.5 45	36.60 9	0	16.64	6.6 43	43. 1	35. 3	16 15	33 3	0.0 14	57 0	9.2 07	0.0 035 3	0.1 88	0.0 04	0.0 022 2	0	0.3 1	0.0 88	0.0 000 59	0.0 14	0.5 51	0.0 41	0.0 1	1.2 9	0.0 016 97	0.0 004 11	0.0 14	0
53	He alt hy	normozo spermi a		0.4 36	32.57 8	2.038	22.75 2	4.0 71	62. 6	36 36	17 03	36 9	0.0 15	54 8	7.7 63	0.0 032 19	0.2 34	0.0 05	0.0 002 67	0	0.3 58	0.0 22	0.0 001 04	0.0 24	0.7 51	0.0 57	0.0 19	1.2 37	0.0 019 96	0.0 003 03	0.0 16	0
54	He alt hy	normozo spermi a	TT	0.2 84	34.77 7	1.528	31.92 1	30. 5	53. 7	32. 6	19 79	32 4	0.0 17	49 7	8.5	0.0 056 17	0.1 95	0.0 06	0.0 005 42	0	0.3 46	0.0 21	0.0 000 3	0.0 54	0.6 02	0.0 57	0.0 69	1.2 39	0.0 015 04	0.0 004 62	0.0 16	0
55	He alt hy	normozo spermi a	TT	0.3 48	52.58 3	1.528	16.13	1.2 14	53. 6	41	19 39	37 8	0.0 18	61 5	8.3 26	0.0 040 68	0.1 96	0.0 05	0.0 023	0	0.3 7	0.0 18	0.0 000 33	0.0 22	0.6 62	0.0 63	0.0 11	1.1 81	0.0 014 22	0.0 002 3	0.0 17	0
56	Inf erti le	Combin ed		0.0 69	51.77 7	3.566	24.28 1	1.2 14	58. 2	37. 4	16 35	35 8	0.0 19	54 3	11. 97 5	0.0 040 59	0.1 7	0.0 05	0.0 042 77	0	0.3 68	0.0 32	0.0 000 73	0.0 39	0.6 42	0.0 57	0.0 08	1.1 64	0.0 031 59	0.0 003 6	0.0 17	0
58	Inf erti le	asthenoz oosperm ia		0.8 36	59.69 1	2.038	17.14 9	5.9 29	33. 54	18 3	31 60	0.1 7	51 18	9	11. 20 9	0.0 382 31	0.1 68	0.0 07	0.0 133 02	0	0.4 03	0.0 27	0.0 001 06	0.0 21	0.7 02	0.0 55	0.3 55	1.2	0.0 015 98	0.0 003 94	0.0 16	0
59	He	normozo	TT	0.5	39.68	0.509	18.16	5.9	42.	34.	18	32	0.0	56	8.9	0.0	0.1	0.0	0.0	0	0.2	0.0	0.0	0.0	0.6	0.0	0.0	1.2	0.0	0.0	0.0	0

	alt hy	ospermi a		59	6		8	29	4	6	24	8	2	7	5	067 35	98	03	019 05		96	26	000 72	16	6	62	07	27	022 9	002 53	1	
60	He alt hy	normozo ospermi a	C C	0.2 84	113.9 88	0	2.377		56	36. 4	18 60	33 0	0.0 18	52 9	10. 47 1	0.0 073 12	0.1 75	0.0 04	0.0 003 22		0.4 17	0.0 15	0.0 001 33	0.0 24	0.7 32	0.0 67	0.0 09	1.2 96	0.0 020 98	0.0 002 99	0.0 14	0
61	Inf erti le	asthenoz osperm ia	TT	0.3 93	36.46 2	2.038	23.77 1	9.7 86	46	37. 1	17 33	36 0	0.0 18	54 5	8.6 99	0.0 045 12	0.2 28	0.0 03	0.0 024 01		0.2 99	0.0 31	0.0 001 01	0.0 28	0.5 86	0.0 59	0.0 08	1.2 88	0.0 018 69	0.0 003 29	0.0 1	0
62	He alt hy	normozo ospermi a	TT	0.0 93	86.87 6	1.019	23.77 1	0.5	48. 8	39. 5	15 59	38 8	0.0 19	61 4	9.7 24	0.0 048 33	0.1 91	0.0 04	0.0 004 3		0.2 92	0.0 28	0.0 001 64	0.0 31	0.6 15	0.0 6	0.0 09	1.1 99	0.0 025 11	0.0 010 62	0.0 12	0
63	He alt hy	normozo ospermi a		0.7 52	40.27 2	0.509	20.20 6	5.5	51. 4	39. 5	19 08	36 9	0.0 18	54 0	8.8 86	0.0 046 8	0.2 23	0.0 05	0.0 016 66		0.3 77	0.0 23	0.0 001 82	0.0 33	0.6 34	0.0 61	0.0 07	1.2 36	0.0 020 92	0.0 007 07	0.0 13	0.0 01 9
64	Inf erti le	OAT	TT	0.5	142.4 92	1.528	23.77 1	3.3 57	58. 4	41. 7	17 70	37 5	0.0 16	56 9	8.5 66	0.0 030 91	0.2 1	0.0 03	0.0 020 23		0.3 05	0.0 4	0.0 000 43	0.0 16	0.8 34	0.0 47	0.0 09	1.2 78	0.0 018 24	0.0 001 88	0.0 1	0
65	Inf erti le	OAT	TT	0.6 6	30.01 4	0	19.18 7	3.7 86	48. 4	32. 8	17 66	31 0	0.0 2	49 6	9.6 8	0.0 045 56	0.1 95	0.0 04	0.0 004 23		0.3 54	0.0 19	0.0 001 19	0.1 06	0.8 21	0.0 47	0.0 09	1.2 03	0.0 018 37	0.0 005 39	0.0 15	0
66	Inf erti le	asthenoz osperm ia	TT	1.1 12	144.6 91	1.019	18.67 7	1.6 43	50	30. 8	17 62	34 4	0.0 16	52 6	8.7 28	0.0 041 54	0.1 7	0.0 04	0.0 005 32		0.4 05	0.0 38	0.0 000 9	0.0 24	0.7 21	0.0 44	0.0 1	1.1 54	0.0 049 62	0.0 004 36	0.0 13	0
67	Inf erti le	polyzoo spermia	TT	0.5 45	76.76 4	3.056	21.73 4	0.2 14	49. 2	33. 4	16 70	35 0	0.0 18	56 1	9.0 73	0.0 043 07	0.2 26	0.0 04	0.0 029 67		0.3 33	0.0 35	0.0 000 89	0.0 35	0.7 49	0.0 45	0.0 09	1.1 95	0.0 025 59	0.0 004 97	0.0 15	0
68	He alt hy	normozo ospermi a	TT	0.3 77	52.14 3	1.528	19.18 7	6.6 43	54. 7	38. 3	19 64	37 0	0.0 29	54 4	11. 19 4	0.0 111 58	0.1 85	0.0 05	0.0 037 68		0.4 18	0.0 29	0.0 001 5	0.1 31	0.8 08	0.0 6	0.0 12	1.2 4	0.0 023 77	0.0 004 54	0.0 15	0
69	Inf erti le	azoosper mia		0.0 1	74.85 9	21.90 3	3.396	13. 357																								
70	He alt hy	normozo ospermi a		0.0 55	29.79 4	2.038	20.20 6	33. 357	55. 3	35. 9	18 59	35 7	0.0 19	52 1	7.8 16	0.0 028 29	0.1 72	0.0 02	0.0 021 76		0.0 72	0.0 88	0.0 000 3	0.0 33	0.6 91	0.0 57	0.0 1	1.2 96	0.0 013 94	0.0 002 14	0.0 13	0
71	He alt hy	normozo ospermi a	TT	0.5 79	48.04	0.509	17.14 9	7.3 57	56. 9	37. 4	18 12	35 1	0.0 13	52 9	8.6 66	0.0 042 26	0.1 92	0.0 05	0.0 004 13		0.3 07	0.0 21	0.0 001 87	0.0 3	0.7 17	0.0 56	0.0 08	1.1 93	0.0 017 41	0.0 003 74	0.0 13	0
72	Inf erti le	OAT	TT	0.3 11	38.80 7	0	27.84 6	6.9 29	41. 5	37. 4	18 10	36 3	0.0 18	60 2	9.6 09	0.0 051 2	0.1 97	0.0 05	0.0 006 73		0.2 75	0.0 24	0.0 001	0.0 19	0.5 05	0.0 56	0.0 1	1.1 17	0.0 014 27	0.0 004 2	0.0 13	0
73	He	normozo	TT	0.8	45.91	1.019	22.75	0.5	55.	39.	17	35	0.0	56	9.8	0.0	0.2	0.0	0.0	0	0.3	0.0	0.0	0.0	0.4	0.0	0.0	1.2	0.0	0.0	0.0	0.0

	alt hy	ospermi a		76	5		2		9	2	36	5	16	9	2	045	28	04	004 43		5	95	001 02	39	64	64	09	19	039 35	010 54	12	03 4
74	He alt hy	normozo ospermi a		0.2 51	13.52 7	2.038	25.29 9	7.6 43	60. 8	34. 2	17 32	32 5	0.0 15	53 1	9.5 4	0.0 040 89	0.1 94	0.0 05	0.0 023 43		0.3 35	0.0 23	0.0 001 15	0.0 31	0.5 36	0.0 6	0.0 11	1.1 36	0.0 022 68	0.0 004 62	0.0 11	0
75	He alt hy	normozo ospermi a	C C	0.3 24	45.98 8	1.019	10.86 7	5.5 5	53. 9	28. 8	17 24	31 1	0.0 12	48 5	8.7 66	0.0 031 65	0.1 57	0.0 03	0.0 005 57		0.2 91	0.0 29	0.0 000 68	0.0 16	0.4 86	0.0 51	0.0 12	1.1 53	0.0 014 64	0.0 002 19	0.0 11	0
76	He alt hy	normozo ospermi a	TT	0.2 27	27.22 9	1.019	18.67 7	5.2 14	54. 2	41. 2	17 85	38 4	0.0 16	62 1	10. 7	0.0 041 15	0.1 61	0.0 04	0.0 001 61		0.3 4	0.0 13	0.0 002 06	0.0 26	0.6 6	0.0 61	0.0 09	1.1 75	0.0 016 21	0.0 004 85	0.0 11	0
77	He alt hy	normozo ospermi a		0.0 17	69.14 3	3.566	19.69 6	6.6 43	54. 4	38. 7	19 40	32 8	0.0 13	49 0	8.8 3	0.0 058 46	0.2 02	0.0 04	0.0 006 46		0.3 65	0.0 3	0.0 001 04	0.0 27	0.3 44	0.0 75	0.0 08	1.0 65	0.0 018 05	0.0 002 99	0.0 14	0
78	He alt hy	normozo ospermi a		0.4 36	78.81 6	3.056	20.20 6	11. 214	60. 2	32. 7	22 87	33 2	0.0 27	46 8	9.8 52	0.0 031 52	0.1 72	0.0 04	0.0 006 55		0.4 01	0.0 16	0.0 003 52	0.0 38	0.8 62	0.0 61	0.0 12	1.1 49	0.0 020 77	0.0 002 77	0.0 13	0
79	He alt hy	normozo ospermi a	TT	0.0 97	21.36 7	1.019	27.33 7	1.6 43	54. 2	33. 6	17 54	34 2	0.0 15	51 4	7.8 13	0.0 031 45	0.1 9	0.0 04	0.0 005 46		0.3 16	0.0 28	0.0 001 62	0.0 16	0.9 09	0.0 59	0.0 1	1.1 48	0.0 021 96	0.0 002 52	0.0 14	0
80	He alt hy	normozo ospermi a	TT	0.3 43	10.59 6	5.094	21.22 4	242 .64 3	44. 8	33. 3	17 36	32 3	0.0 16	52 5	8.8 77	0.0 032 27	0.2 26	0.0 05	0.0 003 2		0.2 97	0.0 22	0.0 000 73	0.0 24	0.7 55	0.0 57	0.0 11	1.1 33	0.0 011 59	0.0 003 33	0.0 13	0
81	He alt hy	normozo ospermi a	TT	0.5 13	7.078	4.584	21.73 4	4.5 3	54. 3	31. 9	18 49	30 7	0.0 21	46 7	7.6 89	0.0 074 54	0.2 16	0.0 02	0.0 006 08		0.3 2	0.0 35	0.0 000 44	0.0 37	0.6 77	0.0 58	0.0 12	1.2 45	0.0 021 96	0.0 002 12	0.0 09	0
82	He alt hy	normozo ospermi a		0.3 77	22.54	4.584	21.22 4	2.3 57	47. 1	41	18 87	39 2	0.0 37	53 3	8.6 69	0.2 699 66	0.2 08	0.0 16	0.0 074 14		0.2 74	0.0 4	0.0 001 46	0.0 46	0.5 52	0.0 67	0.2 39	1.1 79	0.0 020 12	0.0 002 95	0.0 12	0
82	He alt hy	normozo ospermi a							54. 3	33. 2	19 08	34 0	0.0 17	50 3	9.3 13	0.0 055 7	0.1 78	0.0 04	0.0 003 29		0.3 28	0.0 22	0.0 002 24	0.0 21	0.8 19	0.0 57	0.0 09	1.1 43	0.0 014 62	0.0 003 04	0.0 11	0
83	Inf erti le	asthenoz osperm ia		0.8 87	4.074	4.584	19.18 7	0.9 29	58. 2	32. 7	20 06	29 0	0.0 16	41 5	7.5 31	0.0 051 39	0.2 03	0.0 04	0.0 005 06		0.3 25	0.0 25	0.0 000 58	0.0 2	0.4 92	0.0 6	0.0 08	1.1 64	0.0 020 84	0.0 002 29	0.0 13	0.0 01 7
84	Inf erti le	Combin ed		0.4 08	3.561	2.038	19.18 7	76. 214	46. 9	36	17 52	34 1	0.0 22	54 0	9.2 52	0.0 033 77	0.2 25	0.0 04	0.0 015 74		0.2 79	0.0 23	0.0 000 89	0.0 27	0.7 6	0.0 8	0.0 12	1.1 39	0.0 027 23	0.0 004 56	0.0 17	0.0 01 8
85	He alt hy	normozo ospermi a		0.6 15	5.173	5.094	20.20 6	3.0 71	53. 9	38. 1	17 94	35 1	0.0 18	52 4	9.3 78	0.0 036 85	0.2 53	0.0 03	0.0 004 45		0.3 04	0.0 19	0.0 001 32	0.0 2	0.6 31	0.0 66	0.0 15	1.0 1	0.0 020 12	0.0 003 36	0.0 14	0.0 01 8
86	Inf	cryptozo							51.	37.	17	34	0.0	52	9.9	0.0	0.1	0.0	0.0		0.3	0.0	0.0	0.0	0.8	0.0	0.0	1.1	0.0	0.0	0.0	0.0

	erti le	ospermi a						7	9	91	4	12	1	19	027 66	76	04	005 28		45	2	001 19	33	35	62	1	11	021 14	003 47	13	01 8	
87	He alt hy	normozo ospermi a		0.6 53	13.45 3	6.622	24.28 1	7.3 57	58. 5	34. 7	19 29	37 7	0.0 16	53 7	10. 02 5	0.0 073 24	0.2 16	0.0 05	0.0 006 73		0.3 52	0.0 24	0.0 001 6	0.0 62	0.7 82	0.0 63	0.0 36	1.1 88	0.0 027 14	0.0 005 67	0.0 14	0
88	He alt hy	normozo ospermi a		0.5 59	2.462	9.678	51.61 8	126 .92 9	45. 1	35. 2	16 50	32 3	0.0 18	52 9	8.9 24	0.0 046 11	0.1 85	0.0 04	0.0 004 86		0.3 18	0.0 23	0.0 000 59	0.0 19	0.7 07	0.0 61	0.0 08	1.0 54	0.0 022 2	0.0 003 01	0.0 16	0
89	Inf erti le	azoosper mia	TT	1.0 35	26.35	3.566	17.14 9	138 .35 7	59. 2	33. 4	21 05	32 5	0.0 21	34 1	7.1 35	0.0 037 46	0.2 1	0.0 04	0.0 002 27		0.2 92	0.0 15	0.0 001 46	0.0 24	0.6 34	0.0 58	0.0 08	1.2 21	0.0 016 96	0.0 015 41	0.0 14	0
90	Inf erti le	OAT	TT	0.1 76	37.85 4	1.528	17.65 9	6.6 43	62. 4		19 98	32 2	0.0 17	45 7	8.1 64	0.0 038 34	0.1 79	0.0 04	0.0 003 89		0.3 21	0.0 17	0.0 001 17	0.0 23	0.7 29	0.0 56	0.0 09	1.1 72	0.0 023 86	0.0 002 14	0.0 13	0
91	Inf erti le	OAT	TT	0.6 92	66.28 5	2.547	19.18 7	2.3 57	59. 4	35. 3	17 65	31 6	0.0 24	52 9	9.1 3	0.0 023 2	0.1 65	0.0 05	0.0 004 26		0.3 05	0.0 17	0.0 000 44	0.0 19	0.8 25	0.0 77	0.0 11	1.0 79	0.0 028 33	0.0 003 89	0.0 12	0
92	Inf erti le	necrozo ospermi a	TT	0.4 64	41.66 5	3.056	22.75 2	16. 929	48. 7	37. 6	18 80	35 6	0.0 18	50 0	8.4 53	0.0 033 78	0.1 98	0.0 04	0.0 002 63		0.3 25	0.0 23	0.0 001 5	0.0 23	0.6 71	0.0 64	0.0 08	1.0 61	0.0 016 77	0.0 004 55	0.0 13	0
93	He alt hy	normozo ospermi a	C C	0.6 84	26.57	4.075	23.26 2	38. 357		32. 56	20 61	29 9	0.0 21	44 3	7.7 4	0.0 028 77	0.2 08	0.0 04	0.0 007 62		0.3 47	0.0 25	0.0 000 96	0.0 33	0.7 85	0.0 8	0.0 08	1.1 09	0.0 014 84	0.0 002 51	0.0 14	0
94	He alt hy	normozo ospermi a	C C	0.7 34	45.98 8	6.113	18.67 7	1.8 06		33. 59	22 39	33 0	0.0 16	50 7	9.3 27	0.0 031 45	0.2 44	0.0 04	0.0 004 33		0.3 3	0.0 2	0.0 001 21	0.0 3	0.7 73	0.0 66	0.0 12	1.1 07	0.0 017 76	0.0 002 63	0.0 15	0
95	Inf erti le	azoosper mia	TT	0.6 15	70.20 7	6.622	19.18 7	3.9 35	63. 1	31. 7	20 42	33 1	0.0 21	42 0	7.8 64	0.0 051 18	0.1 56	0.0 04	0.0 018 74		0.3 45	0.0 25	0.0 001 49	0.0 74	0.9 17	0.0 65	0.0 12	1.0 93	0.0 019 69	0.0 006 67	0.0 14	0
96	He alt hy	normozo ospermi a	TT	0.1 24	28.98 7	0.509	19.69 6		45. 6	41. 7	17 30	43 0	0.0 19	70 2	10. 76	0.0 041 49	0.2 04	0.0 05	0.0 004 43		0.3 38	0.0 22	0.0 001 48	0.0 32	1.1 17	0.0 75	0.0 09	1.1 15	0.0 020 76	0.0 009 7	0.0 16	0.0 02
97	He alt hy	normozo ospermi a	TT	0.9 19	23.51 5	3.566	19.18 7	2.7 31	54. 5	36. 7	19 22	36 3	0.0 3	55 9	8.8 15	0.0 027 57	0.1 66	0.0 05	0.0 004 3	0.0 01	0.3 2	0.0 22	0.0 000 75	0.0 3	0.8 28	0.0 6	0.0 1	1.0 51	0.0 019 22	0.0 000 87	0.0 16	0
98	Inf erti le	oligozoo spermia	TT			2.038		46. 714	53. 2	38. 7	18 92	35 9	0.0 18	53 8	8.1 49	0.0 031 57	0.1 93	0.0 04	0.0 020 68		0.3 07	0.0 2	0.0 001 37	0.0 85	0.7 67	0.0 25	1.1 79	0.0 017 19	0.0 016 05	0.0 13	0	
99	Inf erti le	OAT	C C	0.5 65	23.80 6	2.547	17.65 9	42. 429	43. 1	34. 6	17 10	33 4	0.0 14	55 8	9.6 52	0.0 039 68	0.1 64	0.0 04	0.0 019 82		0.2 83	0.0 19	0.0 000 99	0.0 2	0.2 89	0.0 76	0.0 1	1.0 63	0.0 017 02	0.0 003 12	0.0 12	0
100	Inf	azoosper		0.2	37.89	1.019	32.43	3.7	50.	32.	19	34	0.0	48	8.9	0.0	0.2	0.0	0.0	0	0.3	0.0	0.0	0.0	0.5	0.0	0.0	1.0	0.0	0.0	0.0	0

	er ti le	mia		22	5		1	5	5	8	02	0	2	8	91	017 83	06	05	005 17		01	24	001 45	2	19	62	25	61	021 15	001 91	13	
101	Inf er ti le	oligozo ospermia	C C	0.4 02	36.85	6.113	17.14 9	3.0 09	56. 2	36. 5	20 39	31 7	0.0 13	44 2	8.2 76	0.0 088 06	0.1 83	0.0 03	0.0 024 74		0.3 32	0.0 22	0.0 001 02	0.0 27	0.5 37	0.0 74	0.0 06	0.9 96	0.0 021 65	0.0 002 3	0.0 12	0
102	Inf er ti le	Combin ed	TT	0.3 23	36.78 9	8.15	24.28 1	3.3 8	50. 7	38. 6	18 96	36 4	0.0 17	57 0	11. 28	0.0 049 79	0.1 74	0.0 03	0.0 038 54		0.3 21	0.0 21	0.0 001 32	0.0 12	0.6 96	0.0 78	0.0 13	1.2 04	0.0 025 42	0.0 002 94	0.0 16	0
104	Inf er ti le	Combin ed		0.2 58	46.74 4	3.566	25.29 9	1.8 06	44. 3	36. 4	14 79	35 6	0.0 19	66 0	10. 07 4	0.0 038 87	0.1 93	0.0 05	0.0 023 56		0.2 98	0.0 18	0.0 001 29	0.0 24	0.5 94	0.0 64	0.0 08	0.9 58	0.0 013 21	0.0 006 85	0.0 12	0.0 01 7
105	He alt hy	normozo ospermia		0.6 86	40.04 9	8.66	0.17	10. 417	60. 3		20 81	34 0	0.0 15	47 9	8.7 3	0.0 045 46	0.2 26	0.0 03	0.0 003 29		0.4 4	0.0 22	0.0 001 83	0.0 59	0.5 81	0.0 77	0.0 07	1.0 75	0.0 022 49	0.0 004 62	0.0 13	0
107	Inf er ti le	Combin ed		0.4 02	39.64 1	22.24 2	18.50 8	6.1 57	55. 2	41. 9	18 42	38 7	0.0 18	61 2	8.7 04	0.0 050 14	0.2 13	0.0 04	0.0 003 73		0.3 63	0.0 24	0.0 001 69	0.0 25	0.7 11	0.0 76	0.0 2	1.1 17	0.0 015 96	0.0 019 45	0.0 13	0
108	Inf er ti le	Combin ed		0.3 37	44.00 8	4.755	31.92 1	6.1 57	46. 6	37. 1	18 06	36 3	0.0 15	57 0	8.6 63	0.0 053 15	0.1 75	0.0 05	0.0 002 62		0.2 95	0.0 19	0.0 001 36	0.0 22	0.5 69	0.0 81	0.0 07	1.0 49	0.0 021 68	0.0 060 57	0.0 15	0
109	Inf er ti le	asthenoz ospermia		0.0 3	41.50 4	8.321	19.18 7	9.1 2	50. 5	38. 2	18 32	37 1	0.0 23	54 3	8.0 99	0.0 037 97	0.2 41	0.0 04	0.0 007 08		0.3 2	0.0 21	0.0 001 23	0.0 18	0.6 76	0.0 64	0.0 1	1.1 18	0.0 028 14	0.0 002 66	0.0 12	0
110	Inf er ti le	OAT		0.7 12	20.89 5	11.37 7	20.20 6	1.9 91	52. 6	34. 8	19 81	33 9	0.0 22	55 6	8.3 93	0.0 054 04	0.1 37	0.0 02	0.0 026 99	0.0 01	0.3 17	0.0 22	0.0 001 35	0.0 39	0.7 01	0.0 62	0.0 14	1.2 05	0.0 017 63	0.0 002 82	0.0 12	0
111	He alt hy	normozo ospermia		0.6 22	15.30 6	11.88 6	13.07 4	1.3 43	55. 9	40. 1	18 82	34 9	0.0 19	59 6	7.0 14	0.0 039 21	0.1 9	0.0 03	0.0 023 05		0.3 17	0.0 27	0.0 001 39	0.0 19	0.6 71	0.0 55	0.0 07	1.0 2	0.0 029 18	0.0 005 31	0.0 11	0.0 01 8
112	Inf er ti le	Combin ed	TT	0.9 82	20.66 2	11.88 6	15.62 1	2.2 69	52. 6	38. 2	19 70	33 3	0.0 16	55 3	8.5 16	0.0 043 66	0.2 28	0.0 04	0.0 030 32		0.3 18	0.0 16	0.0 001 05	0.0 14	0.4 39	0.0 56	0.0 09	1.0 37	0.0 022 59	0.0 003 06	0.0 1	0
113	He alt hy	normozo ospermia		0.7 06	23.16 5	11.37 7	10.35 7	4.4 91	51. 1	35. 6	18 62	33 3	0.0 16	51 1	7.4 37	0.0 050 69	0.2 36	0.0 03	0.0 019 3		0.2 83	0.0 21	0.0 000 89	0.0 35	0.7 46	0.0 59	0.0 08	1.1 1	0.0 016 23	0.0 003 89	0.0 11	0.0 01 8
114	He alt hy	normozo ospermia	TT	0.7 39	34.16 9	10.86 8	14.43 3	0.6 94	45. 4	38. 9	16 55	36 4	0.0 26	60 5	9.0 52	0.0 039 46	0.2 09	0.0 03	0.0 003 31		0.3 02	0.0 19	0.0 002 28	0.0 22	0.5 54	0.0 57	0.0 07	1.1 15	0.0 017 56	0.0 003 08	0.0 11	0
115	He alt hy	normozo ospermia	C C	0.7 28	92.79 6	11.37 7	19.01 7	3.2 87	47. 2	35. 8	18 69	32 3	0.0 22	57 4	8.6 08	0.0 042 91	0.2 05	0.0 03	0.0 024 93		0.3 15	0.0 39	0.0 001 36	0.0 21	0.5 16	0.0 66	0.0 09	1.0 55	0.0 014 71	0.0 003 75	0.0 09	0
116	He	normozo	TT	0.6	12.68	11.88	16.47	4.8	51.	34.	19	31	0.0	49	9.4	0.0	0.1	0.0	0.0	0	0.3	0.0	0.0	0.0	0.5	0.0	0.0	1.0	0.0	0.0	0.0	0

	alt hy	ospermi a		61	6	6		61	2	1	92	3	21	2	04	032 86	89	05	005 46		42	3	001 33	21	25	57	09	9	014 26	002 75	09	
117	Inf erti le	asthenoz osperm ia	TT	0.6 13	26.30 9	10.86 8	1.868	4.9 54	51. 4	35. 1	19 83	33 7	0.0 21	54 1	9.3 07	0.0 039 73	0.2 08	0.0 03	0.0 004 42	0	0.3 56	0.1 18	0.0 000 73	0.0 2	0.9 86	0.0 62	0.0 08	1.0 07	0.0 019 19	0.0 003 58	0.0 1	0
119	Inf erti le	oligozoo spermia	C C	0.2 76	23.45 7	10.35 8	12.90 4	0.6 94	53. 8	34. 7	19 63	33 9	0.0 14	52 2	7.1 89	0.0 031 17	0.2 19	0.0 03	0.0 022	0	0.3 62	0.0 24	0.0 001 2	0.0 14	0.5 89	0.0 54	0.0 08	1.0 56	0.0 014 07	0.0 002 82	0.0 1	0.0 01 8
120	Inf erti le	oligozoo spermia	C C	0.5 73	13.85	12.39 6	13.92 3	1.8 06	53. 6	36. 1	17 83	33 2	0.0 16	56 3	9.7 67	0.0 032 13	0.1 94	0.0 05	0.0 026 28	0.0 01	0.3 44	0.0 36	0.0 002 08	0.0 2	1.0 35	0.0 53	0.0 08	0.9 69	0.0 016 97	0.0 007 48	0.0 11	0
121	Inf erti le	Combin ed	C C	0.4 36	30.09 3	10.86 8	24.11 1	1.6 2	58. 3	36. 5	17 97	35 8	0.0 16	55 1	8.3 28	0.0 035 24	0.1 91	0.0 04	0.0 017 6	0	0.3 93	0.0 26	0.0 000 76	0.0 27	0.7 98	0.0 46	0.0 07	1.1 06	0.0 016 89	0.0 029 19	0.0 12	0
122	Inf erti le	Combin ed	TT	0.3 31	35.39 1	4.755	17.99 8	5.8 8	58. 2	34. 1	17 35	30 8	0.0 2	50 0	8.6 36	0.0 065 28	0.1 89	0.0 03	0.0 005 08	0	0.3 59	0.0 29	0.0 002 33	0.0 28	0.8 13	0.0 48	0.0 32	1.0 57	0.0 027 09	0.0 002 73	0.0 1	0.0 03 3
123	Inf erti le	Combin ed	TT	1.0 2	145.9 5	11.37 7	3.735	2.9 17																								
124	Inf erti le	asthenoz osperm ia		0.7 84	44.93 9	9.849	6.282	1.6 2																								
125	Inf erti le	azoosper mia		0.5 95	19.96 3	5.774	8.32	3.7 5																								
126	Inf erti le	Combin ed		0.5 47	24.91 2	11.37 7	7.301	3.0 09																								
127	He alt hy	normozo ospermi a		0.8 77	5.467	12.39 6	2.717	1.1 57	60. 5	33. 7	19 17	31 3	0.0 18	46 8	8.8 83	0.0 064 67	0.2 21	0.0 04	0.0 003 55	0	0.4 48	0.0 4	0.0 002 25	0.0 31	0.8 52	0.0 46	0.0 07	0.9 55	0.0 030 5	0.0 003 22	0.0 11	0
129	He alt hy	normozo ospermi a		0.8 7	16.17 9	11.37 7	10.35 7	6.2 5																								
130	Inf erti le	Combin ed	C C	0.6 81	17.46	11.88 6	14.43 3	4.7 69	54. 8	37. 7	18 92	32 7	0.0 13	52 6	12. 26 4	0.0 054 71	0.2 32	0.0 04	0.0 043 38	0	0.3 45	0.0 26	0.0 002 23	0.0 23	0.8 65	0.0 51	0.0 07	0.9 94	0.0 031 58	0.0 006 45	0.0 13	0
131	He alt hy	normozo ospermi a	TT	0.3 96	25.90 2	6.793	1.698	2.2 69	58. 1	34. 3	19 45	31 8	0.0 2	49 0	8.3 98	0.0 056 76	0.1 21	0.0 04	0.0 018 52	0	0.4 89	0.0 18	0.0 000 91	0.0 28	1.2 75	0.0 47	0.0 42	1.0 04	0.0 015 44	0.0 003 72	0.0 11	0.0 01 7
132	He	normozo	TT	0.9	96.11	9.34	9.339	15.	52.	36.	18	31	0.0	52	9.1	0.0	0.2	0.0	0.0	0	0.3	0.0	0.0	0.0	1.3	0.0	0.0	1.0	0.0	0.0	0.0	0

	alt hy	ospermi a		38	4			093	5	7	20	0	18	7	23	033 41		04	004 57		74	34	001 5	22	15	46	07	71	014 69	003 23	1	
133	Inf erti le	Combin ed		0.7 17	23.16 5	8.83	10.35 7	1.5 28	50. 6	37. 9	16 53	35 6	0.0 22	55 5	8.2 5	0.0 046 38	0.1 89	0.0 04	0.0 005 91		0.3 92	0.0 21	0.0 001 67	0.0 34	0.8 12	0.0 44	0.0 07	0.9 91	0.0 031 61	0.0 004 17	0.0 12	0
135	Inf erti le	OAT	C C	0.9 04	16.52 8	10.35 8	2.717	0.6 02	59. 7		19 11	33 4	0.0 19	55 1	7.8 46	0.0 052 03	0.1 89	0.0 05	0.0 006 26	0.0 01	0.3 33	0.0 26	0.0 001 34	0.0 47	0.9 7	0.0 46	0.0 11	1.0 18	0.0 020 17	0.0 006 83	0.0 12	0
136	Inf erti le	OAT		0.7 06	17.75 1	11.88 6	9.848	1.6 2	50. 2	35. 3	16 52	38 9	0.0 19	56 7	9.6 47	0.0 027 23	0.2 14	0.0 03	0.0 034		0.2 97	0.0 18	0.0 001 47	0.0 45	2.6 57	0.0 48	0.0 09	1.0 3	0.0 015 74	0.0 004 21	0.0 12	0
137	Inf erti le	asthenoz osperm ia	C C	0.3 06	36.84 7	10.86 8	7.811			39. 8	16 04	37 9	0.0 16	60 9	6.1 2	0.0 041 73	0.1 87	0.0 03	0.0 004 7		0.3 06	0.0 21	0.0 000 91	0.0 17	0.9 9	0.0 3	0.0 26	0.9 28	0.0 015 99	0.0 020 62	0.0 13	0
138	Inf erti le	OAT	TT	0.6 13	26.01 8	10.86 8	4.754	0.7 87	51. 4	33. 1	16 85	34 2	0.0 16	57 6	8.3 86	0.0 034 29	0.2 19	0.0 04	0.0 016 6		0.3 8	0.0 24	0.0 002 08	0.0 22	1.2 56	0.0 78	0.0 06	1.0 06	0.0 019 36	0.0 003 45	0.0 13	0.0 01 7
139	Inf erti le	Combin ed	TT	0.7 12	32.07 3	12.39 6	5.264	1.4 35	56. 6	36. 7	18 40	34 0	0.0 25	55 6	7.4 71	0.0 033 45	0.2 05	0.0 04	0.0 011 45		0.3 51	0.0 18	0.0 000 75	0.0 25	1.0 39	0.0 32	0.0 31	1.0 13	0.0 015 01	0.0 003 02	0.0 12	0.0 01 8
140	He alt hy	normozo ospermi a	TT	0.6 65	20.60 4	11.37 7	14.43 3	15. 231	56. 6	37. 3	18 90	33 7	0.0 22	51 4	8.4 6	0.0 042 77	0.1 79	0.0 05	0.0 022 56		0.3 66	0.0 29	0.0 001 45	0.0 22	1.0 9	0.0 49	0.0 19	1.0 01	0.0 014 58	0.0 002 74	0.0 11	0
144	He alt hy	normozo ospermi a	TT	0.7 01	63.51 1	10.86 8	14.43 3	1.1 57	42. 3	36. 4	18 53	33 2	0.0 21	52 3	9.0 62	0.0 031	0.1 8	0.0 03	0.0 026 26		0.3 5	0.0 32	0.0 002 56	0.0 22	1.2 99	0.0 28	0.0 08	0.9 21	0.0 023 26	0.0 004 13	0.0 15	0
145	Inf erti le	azoosper mia	TT	0.6 96	19.14 8	0.848	4.245	2.0 83	71. 9	34. 7	22 03	33 9	0.0 16	42 8	8.6 34	0.0 248 33	0.1 39	0.0 04	0.0 019 62		0.3 8	0.0 16	0.0 001 21	0.0 35	1.0 57	0.0 26	0.0 22	1.0 06	0.0 020 02	0.0 002 91	0.0 16	0
146	Inf erti le	asthenoz osperm ia		0.6 41	89.53 5		13.41 4	1.7 13	58. 4	43. 9	17 77	40 5	0.0 2	54 5	8.3 18	0.0 037 9	0.1 82	0.0 02	0.0 024 03		0.3 94	0.0 21	0.0 001 53	0.0 22	1.0 1	0.0 27	0.0 07	0.8 66	0.0 016 86	0.0 004 01	0.0 14	0
147	Inf erti le	polyzoo spermia	C C	0.8 77	64.32 6	8.321	3.226	2.6 39	58. 2	35. 2	20 79	34 3	0.0 18	54 8	8.5 56	0.0 031 25	0.2 04	0.0 04	0.0 022 12		0.3 65	0.0 16	0.0 001 56	0.0 23	0.9 99	0.0 25	0.0 08	0.9 19	0.0 017 11	0.0 002	0.0 16	0
148	Inf erti le	azoosper mia	TT	1.7 88	64.50 1	9.849	14.94 2	1.7 13	64. 7	36. 4	21 51	35 4	0.0 25	42 7	7.3 33	0.0 068 87	0.1 86	0.0 01	0.0 015 07		0.3 46	0.0 23	0.0 001 35	0.0 31	1.0 8	0.0 37	0.0 54	0.9 77	0.0 031 36	0.0 004 17	0.0 18	0
150	He alt hy	normozo ospermi a	TT	0.5 03	86.39 1	11.88 6	11.88 6	8.4 26	56. 6	39. 1	16 48	37 9	0.0 19	61 6	9.4 61	0.0 036 03	0.2 21	0.0 03	0.0 005 65		0.3 37	0.0 27	0.0 000 74	0.0 34	1.0 71	0.0 26	0.0 09	0.9 6	0.0 020 88	0.0 005 93	0.0 13	0
151	Inf	OAT	TT	0.5	9.193	6.283	16.97	7.0	47	41.	16	41	0.0	67	9.1	0.0	0.1	0.0	0.0	0	0.3	0.0	0.0	0.0	0.9	0.0	0.0	0.9	0.0	0.0	0.0	0

	erti le			95			9	83		1	47	4	28	5	07	041 59	57	02	005 59		46	31	000 6	13	98	29	27	22	021 47	004 14	13	
152	He alt hy	normozo spermi a	TT	0.9 52	70.55 6	10.35 8	12.90 4	1.2 5	54. 7	36. 3	18 05	37 4	0.0 24	54 5	10. 37 8	0.0 042 37	0.1 9	0.0 04	0.0 012 51		0.3 76	0.0 24	0.0 000 61	0.0 32	1.1 46	0.0 28	0.0 35	1.0 33	0.0 025 47	0.0 004 91	0.0 14	0
153	He alt hy	normozo spermi a	TT	0.4 47	53.49 8	6.283	9.339	2.8 24	35. 65	18 7	32 79	0.0 8	47 14	9.3 5	0.0 26	0.0 047 54	0.1 6	0.0 03	0.0 003 28		0.3 43	0.0 28	0.0 001 64	0.0 27	0.9 86	0.0 24	0.0 09	0.8 91	0.0 018 52	0.0 003 69	0.0 12	0
154	Inf erti le	oligozoo spermia	TT	0.4 19	29.45 3	6.283	14.94 2	2.0 83	57. 1	35	18 04	30 8	0.0 29	52 6	8.1 81	0.0 030 56	0.1 74	0.0 03	0.0 026 74		0.3 18	0.0 33	0.0 001 92	0.0 24	1.1 53	0.0 26	0.0 16	0.9 02	0.0 027 34	0.0 002 34	0.0 14	0
155	He alt hy	normozo spermi a	C C	0.8 2	10.35 7	11.88 6	11.88 6	2.1 76	51	34. 6	18 27	32 4	0.0 17	54 1	7.9 71	0.0 048 68	0.1 81	0.0 03	0.0 003 6		0.3 46	0.0 25	0.0 001 06	0.0 23	1.0 14	0.0 28	0.0 17	0.8 95	0.0 012 5	0.0 008 79	0.0 14	0
156	Inf erti le	Combin ed	TT	0.8 26	19.61 4	8.83	10.86 7	2.8 24	64. 4	41. 7	18 76	35 5	0.0 22	55 0	9.2 3	0.0 034 68	0.2 32	0.0 04	0.0 004 86		0.3 91	0.0 28	0.0 001 62	0.0 24	1.2 65	0.0 55	0.0 13	1.0 88	0.0 040 1	0.0 003 61	0.0 14	0
158	Inf erti le	cryptozo spermi a	TT	0.2 17	92.44 6	10.86 8	4.754	3.8 43	61. 6	34. 6	18 56	36 5	0.0 2	52 8	8.1 33	0.0 034 27	0.1 76	0.0 03	0.0 004 15		0.3 35	0.0 2	0.0 001 18	0.0 24	1.0 74	0.0 24	0.0 07	0.8 71	0.0 018 08	0.0 005 12	0.0 13	0
159	Inf erti le	Combin ed		0.8 38	116.8 98	11.88 6	11.37 6	2.6 39																								
160	Inf erti le	Combin ed		0.2 19	98.61 7	9.849	6.282	6.8 98	49. 7	31	17 60	33 4	0.0 21	53 9	8.2 45	0.0 034 96	0.1 82	0.0 03	0.0 017 78		0.3 53	0.0 31	0.0 001 44	0.0 2	1.3 99	0.0 6	0.0 1	0.9 83	0.0 016 83	0.0 003 7	0.0 13	0
162	Inf erti le	OAT	TT						51. 1	36. 4	20 49	36 9	0.0 22	51 1	7.8 08	0.0 026 13	0.2 2	0.0 04	0.0 020 88		0.3 9	0.0 27	0.0 001 19	0.0 23	1.1 81	0.0 54	0.0 12	1.0 16	0.0 016 52	0.0 005 27	0.0 12	0
163	He alt hy	normozo spermi a	TT						58. 7	37. 6	20 37	35 2	0.0 24	56 7	10. 7	0.0 034 64	0.2 11	0.0 03	0.0 027 14		0.3 88	0.0 43	0.0 001 4	0.0 31	1.2 84	0.5 86	0.0 14	1.1 09	0.0 019 92	0.0 002 92	0.0 12	0
164	Inf erti le	asthenoz osperm ia							75. 1	36. 7	20 68	30 4	0.0 28	50 5	8.8 75	0.0 032 14	0.2 05	0.0 05	0.0 004 25		0.4 19	0.0 25	0.0 001 04	0.0 38	1.4 41	0.0 56	0.0 15	0.9 48	0.0 022	0.0 002 17	0.0 14	0
165	He alt hy	normozo spermi a	TT	0.6 32	49.71 3	0.68	10.86 7	2.9 17	53	33. 9	19 78	35 7	0.0 16	55 4	8.9 42	0.0 044 17	0.2 08	0.0 04	0.0 021 37		0.3 52	0.0 82	0.0 001 52	0.0 25	1.2 61	0.0 52	0.0 09	1.0 26	0.0 024 44	0.0 003 99	0.0 14	0
166	Inf erti le	asthenoz osperm ia	TT	0.8 38	31.84	4.755	2.717	1.8 06	57	39. 2	18 81	33 7	0.0 25	59 7	9.5 94	0.0 033 95	0.1 98	0.0 04	0.0 024 07		0.4 31	0.0 16	0.0 000 3	0.0 73	1.6 03	0.0 56	0.0 12	1.0 61	0.0 017 63	0.0 003 93	0.0 11	0.0 8
167	Inf	Combin	C	0.4	48.43	9.849	12.39	2.0	52.	40	17	33	0.0	53	8.3	0.0	0.2	0.0	0.0	0	0.3	0.0	0.0	0.0	1.3	0.0	0.0	0.8	0.0	0.0	0.0	0

	er ti le	ed	C	99	3		5	83	8		79	9	18	8	79	035 69	21	04	021 62		57	21	001 5	29	39	52	18	9	014 24	004 81	15	
168	Inf er ti le	azoosper mia		0.3 61	27.93 9	10.35 8	12.39 5	2.3 61	60. 6	40. 7	18 25	36 5	0.0 22	55 5	9.2 63	0.0 062 74	0.2 07	0.0 05	0.0 006 3	0.0 01	0.3 78	0.0 29	0.0 000 6	0.0 52	1.2 45	0.0 48	0.0 11	1.0 6	0.0 016 88	0.0 016 21	0.0 12	0
169	He alt hy	normozo spermi a	C C	0.6 65	126.4 46	10.86 8	8.829	3.2 87		36. 61	17 64	32 1	0.0 17	53 2	8.0 32	0.0 059 64	0.1 95	0.0 04	0.0 024 66		0.3 2	0.0 23	0.0 002 01	0.0 17	1.4 19	0.0 51	0.0 18	0.9 81	0.0 026 15	0.0 004 05	0.0 1	0
170	Inf er ti le	cryptozo ospermi a		0.7 44	17.51 8	8.321	10.86 7	1.3 43	61. 4	39. 3	19 59	36 8	0.0 18	59 7	7.5 69	0.0 063 82	0.1 85	0.0 02	0.0 003 65		0.3 58	0.0 28	0.0 001 24	0.0 22	1.3 36	0.0 77	0.0 09	0.9 8	0.0 019 01	0.0 022 76	0.0 1	0
171	He alt hy	normozo spermi a	TT	0.3 43	39.81 6	7.811	0.679	2.1 76	62. 1	38. 2	17 37	35 6	0.0 18	53 6	8.7 38	0.0 06	0.2 22	0.0 03	0.0 004 88		0.3 82	0.0 23	0.0 001 35	0.0 2	1.0 04	0.0 49	0.0 1	0.9 36	0.0 029 18	0.0 003 71	0.0 13	0
173	Inf er ti le	asthenoz osperm ia																														
174	He alt hy	normozo spermi a	C C	0.8 57	80.80 2	5.264	9.339	3.2 87		40. 3	19 14	36 4	0.0 21	60 9	10. 31 7	0.0 055 14	0.2 32	0.0 03	0.0 025 6		0.4 18	0.0 2	0.0 001 95	0.0 19	1.1 33	0.0 51	0.0 1	0.9 59	0.0 030 11	0.0 004 78	0.0 11	0
175	Inf er ti le	Combin ed	C C	0.5 6	23.51 5	3.227	11.37 6	1.1 57	57. 4	40. 1	17 39	36 3	0.0 22	56 3	7.1 28	0.0 054 28	0.1 97	0.0 03	0.0 025 01		0.4 07	0.0 15	0.0 001 96	0.0 24	1.0 24	0.0 5	0.0 12	0.9 64	0.0 055 53	0.0 029 27	0.0 12	0
176	He alt hy	normozo spermi a		0.7 84	15.88 8	8.321	4.415	2.5 46	11 6.8	31. 7	18 15	28 1	0.1 05	44 1	20. 17 5	0.0 124 77	1.4 19	0.0 4	0.0 154 21	0.0 01	1.1 62	0.1 11	0.0 009 27	0.0 81	7.3 93	0.5 21	0.0 96	9.7 64	0.0 137 2	0.0 027 49	0.0 94	0
177	Inf er ti le	Combin ed		0.4 99	33.76 1	11.37 7	2.717	2.8 24	51. 7	35. 2	18 27	34 2	0.0 24	55 1	9.0 37	0.0 051 29	0.2 16	0.0 04	0.0 005 27		0.4 32	0.0 55	0.0 000 45	0.0 32	1.2 29	0.0 47	0.0 09	0.8 87	0.0 019 4	0.0 007	0.0 13	0
178	Inf er ti le	polyzoo spermia	TT	0.2 51	26.95	9.34	3.735	2.4 54	52. 1	36. 1	16 98	34 3	0.0 18	56 9	9.2 67	0.0 041 62	0.2 15	0.0 03	0.0 025 02		0.3 99	0.0 31	0.0 000 6	0.0 2	1.1 11	0.0 46	0.0 1	0.8 23	0.0 050 68	0.0 003 28	0.0 17	0
179	He alt hy	normozo spermi a	TT	0.2 63	41.50 4	4.246	1.698	3.0 09		37. 5	20 30	33 8	0.0 35	51 0	9.8 74	0.0 049 65	0.2 1	0.0 03	0.0 032 08		0.4 61	0.0 17	0.0 001 63	0.0 2	1.4 45	0.0 5	0.0 37	0.8 54	0.0 019 16	0.0 002 59	0.0 13	0