SUPPLEMENTAL MATERIAL

Table S1. ANOVA table for the total model regarding risk of myocardial infarction.

Variable	Degrees of freedom	Chi-square	p-value
Age	12	124.12	<0.0001
non linear	1	2.11	0.1464
BMI	2	8.33	0.0155
interaction	1	5.39	0.0203
LDL	2	35.09	<0.0001
interaction	1	0.84	0.3582
HDL	2	10.91	0.0043
interaction	1	0.84	0.3582
SBP	2	8.69	0.013
interaction	1	0.62	0.4326
DBP	2	0.96	0.6175
interaction	1	0.9	0.3427
Triglycerides	2	0.85	0.6541
interaction	1	0.03	0.8516
Glucose	2	21.47	<0.0001
interaction	1	1.14	0.2851
Smoking	2	40.06	<0.0001
interaction	1	4.97	0.0258
Total interaction	8	23.03	0.0033
Total	20	227	<0.0001

BMI=Body mass index, SBP=Systolic blood pressure, LDL=Low density lipoprotein, HDL=High density lipoprotein

Table S2. Rate ratios (RR), 95% CI and p-values for the associations between traditional risk factors and incident myocardial infarction (MI), adjusted for medication use, given when the risk factors were measured at five examination cycles (50, 60, 70, 77, and 82 years). The RRs are based on an interquartile range (IQR) change in each continuous risk factor during a 5 year follow-up from each examination.

Variable	RR	95% CI Upper	95% CI Lower	p-value
BMI				
50	1.44	1.12	1.83	0.004
60	1.25	1.08	1.45	0.004
70	1.08	0.96	1.22	0.185
77	0.98	0.84	1.16	0.844
82	0.92	0.74	1.13	0.422
LDL				
50	1.24	0.98	1.55	0.068
60	1.37	1.18	1.582	<0.001
70	1.51	1.31	1.738	<0.001
77	1.62	1.34	1.959	<0.001
82	1.70	1.35	2.160	<0.001
HDL				
50	0.73	0.55	0.98	0.035
60	0.77	0.64	0.922	0.005
70	0.81	0.70	0.930	0.003
77	0.84	0.70	1.004	0.055
82	0.86	0.68	1.083	0.198
SBP				
50	1.24	0.86	1.81	0.252
60	1.22	0.97	1.543	0.092
70	1.20	1.02	1.411	0.026
77	1.19	0.97	1.450	0.096
82	1.18	0.91	1.525	0.222
Triglycerides				
50	1.03	0.95	1.13	0.468
60	1.03	0.97	1.094	0.302
70	1.03	0.95	1.120	0.501
77	1.03	0.91	1.159	0.654
82	1.03	0.88	1.192	0.726

Glucose				
50	1.18	1.04	1.34	0.011
60	1.12	1.04	1.209	0.003
70	1.07	1.01	1.130	0.020
77	1.03	0.96	1.116	0.417
82	1.01	0.91	1.116	0.881
Smoking				
50	3.15	2.03	4.88	<0.001
60	2.35	1.81	3.045	<0.001
70	1.76	1.44	2.150	<0.001
77	1.43	1.08	1.907	0.014
82	1.24	0.85	1.804	0.265

Table S3. ANOVA table for the total model regarding risk of ischemic stroke.

Variable	Degrees of freedom	Chi-square	p-value
Age	12	156.4	<0.0001
non linear	1	7.38	0.0066
BMI	2	1.02	0.6013
interaction	1	1.01	0.3138
LDL	2	6.87	0.0322
interaction	1	0.36	0.548
HDL	2	3.88	0.1435
interaction	1	1.42	0.2329
SBP	2	25.39	<0.0001
interaction	1	7.36	0.0067
DBP	2	1.25	0.5354
interaction	1	0.65	0.4199
Triglycerides	2	0.56	0.7549
interaction	1	0.05	0.8205
Glucose	2	9.51	0.0086
interaction	1	0.6	0.4392
Smoking	2	6.76	0.0341
interaction	1	0.6	0.4392
Total interaction	8	17.51	0.0252
Total	20	218.91	<0.0001

BMI=Body mass index, SBP=Systolic blood pressure, LDL=Low density lipoprotein, HDL=High density lipoprotein

Table S4. Rate ratios (RR), 95% CI and p-values for the associations between traditional risk factors and incident ischemic stroke, adjusted for medication use, given when the risk factors were measured at five examination cycles (50, 60, 70, 77, and 82 years). The RRs are based on an interquartile range (IQR) change in each continuous risk factor during a 5 year follow-up from each examination.

Variable	RR	95% CI Upper	95% CI Lower	p-value
BMI				
50	1.49	0.91	2.44	0.112
60	1.26	0.92	1.72	0.147
70	1.06	0.90	1.26	0.488
77	0.94	0.80	1.11	0.483
82	0.87	0.69	1.08	0.205
LDL				
50	0.98	0.56	1.73	0.957
60	1.10	0.77	1.58	0.588
70	1.24	1.01	1.52	0.041
77	1.34	1.10	1.64	0.004
82	1.42	1.10	1.85	0.008
HDL				
50	1.15	0.70	1.88	0.582
60	1.03	0.75	1.40	0.868
70	0.92	0.77	1.10	0.348
77	0.85	0.71	1.02	0.081
82	0.80	0.63	1.02	0.077
SBP				
50	2.85	1.52	5.32	0.001
60	2.11	1.42	3.14	<0.001
70	1.57	1.26	1.94	<0.001
77	1.27	1.04	1.55	0.019
82	1.10	0.84	1.43	0.508
Triglycerides				
50	0.85	0.56	1.28	0.440
60	0.88	0.68	1.15	0.348
70	0.92	0.79	1.06	0.236
77	0.94	0.82	1.09	0.405
82	0.96	0.79	1.16	0.668

Glucose				
50	1.05	0.83	1.32	0.679
60	1.04	0.90	1.20	0.579
70	1.03	0.96	1.11	0.416
77	1.03	0.94	1.12	0.554
82	1.02	0.91	1.15	0.725
Smoking				
50	3.15	1.35	7.34	0.008
60	2.04	1.22	3.41	0.007
70	1.32	1.00	1.75	0.051
77	0.97	0.70	1.35	0.878
82	0.78	0.50	1.24	0.299

Table S5. ANOVA table for the total model regarding risk of heart failure.

Variable	Degrees of freedom	Chi-square	p-value
Age	12	193.59	<0.0001
non linear	1	10.78	0.001
BMI	2	23.32	<0.0001
interaction	1	0.57	0.4492
LDL	2	1.79	0.409
interaction	1	0.05	0.8294
HDL	2	8.31	0.0157
interaction	1	5.79	0.0161
SBP	2	18.69	<0.0001
interaction	1	8.07	0.0045
DBP	2	0.78	0.6766
interaction	1	0.01	0.9314
Triglycerides	2	0.51	0.773
interaction	1	0.51	0.4767
Glucose	2	17.15	0.0002
interaction	1	0.03	0.8739
Smoking	2	7.95	0.0188
interaction	1	0.32	0.5709
Total interaction	8	27.1	0.0007
Total	20	292.59	<0.0001

BMI=Body mass index, SBP=Systolic blood pressure, LDL=Low density lipoprotein, HDL=High density lipoprotein

Table S6. Rate ratios (RR), 95% CI and p-values for the associations between traditional risk factors and incident heart failure, adjusted for medication use, given when the risk factors were measured at five examination cycles (50, 60, 70, 77, and 82 years). The RRs are based on an interquartile range (IQR) change in each continuous risk factor during a 5 year follow-up from each examination.

Variable	RR	95% CI Upper	95% CI Lower	p-value
BMI				
50	1.56	1.01	2.40	0.043
60	1.47	1.11	1.93	0.007
70	1.38	1.18	1.60	<0.001
77	1.32	1.15	1.51	<0.001
82	1.28	1.07	1.53	0.008
LDL				
50	1.27	0.79	2.07	0.326
60	1.23	0.90	1.68	0.198
70	1.19	0.98	1.43	0.073
77	1.16	0.97	1.39	0.113
82	1.14	0.90	1.43	0.272
HDL				
50	0.49	0.28	0.86	0.013
60	0.62	0.42	0.90	0.011
70	0.78	0.63	0.95	0.016
77	0.91	0.78	1.07	0.262
82	1.03	0.85	1.25	0.785
SBP				
50	2.36	1.28	4.35	0.006
60	1.82	1.22	2.71	0.003
70	1.40	1.12	1.74	0.003
77	1.17	0.97	1.40	0.096
82	1.02	0.81	1.29	0.836
Triglycerides				
50	1.05	0.89	1.24	0.572
60	1.02	0.91	1.13	0.760
70	0.99	0.90	1.08	0.757
77	0.96	0.86	1.09	0.544
82	0.95	0.82	1.10	0.488

Glucose				
50	1.06	0.85	1.30	0.617
60	1.07	0.93	1.22	0.338
70	1.08	1.01	1.16	0.033
77	1.09	1.02	1.16	0.014
82	1.09	1.00	1.20	0.059
Smoking				
50	1.93	0.87	4.29	0.106
60	1.73	1.05	2.85	0.032
70	1.55	1.18	2.03	0.001
77	1.44	1.09	1.89	0.009
82	1.36	0.94	1.97	0.103

Table S7. Risk ratios (RR) and 95% CI (lower and upper) are given for relationships between different risk factors and incident myocardial infarction, ischemic stroke and heart failure at ages 50, 60, 70, 77 and 82 years of age when recalculated using multiple imputation for missing variables. SBP= systolic blood pressure.

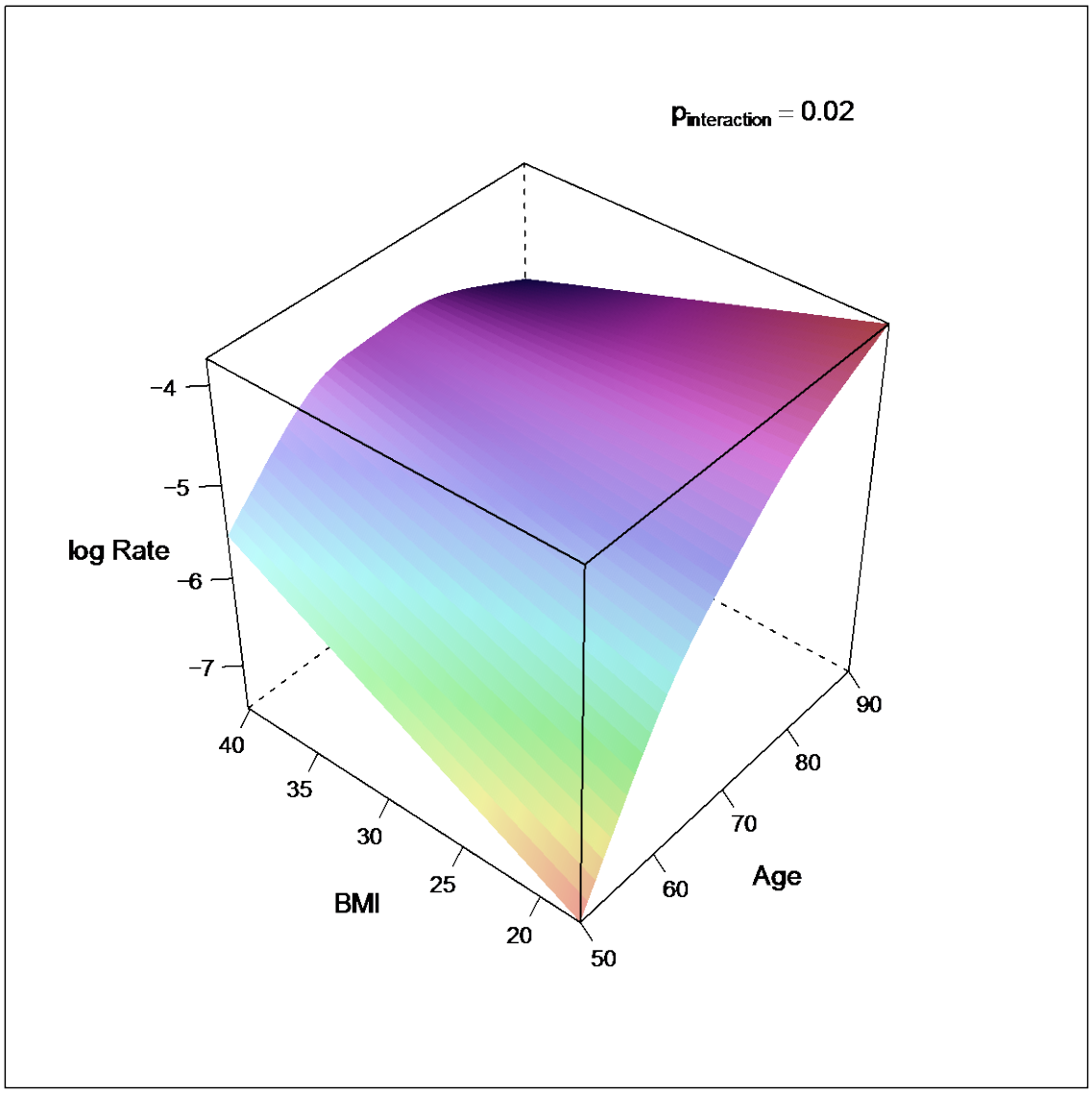
Variable	Myocardial infarction			Stroke			Heart failure		
	RR	Lower	Upper	RR	Lower	Upper	RR	Lower	Upper
BMI									
50	1.31	1.02	1.67	1.28	0.78	2.09	1.54	1.01	2.35
60	1.18	1.02	1.38	1.14	0.83	1.56	1.44	1.10	1.89
70	1.07	0.95	1.21	1.02	0.86	1.21	1.35	1.16	1.57
77	1.00	0.85	1.17	0.94	0.80	1.10	1.29	1.13	1.48
82	0.95	0.77	1.17	0.89	0.71	1.10	1.25	1.05	1.49
LDL									
50	1.36	1.02	1.81	1.13	0.61	2.09	0.92	0.53	1.62
60	1.45	1.18	1.77	1.22	0.82	1.81	0.97	0.67	1.40
70	1.54	1.26	1.88	1.31	1.03	1.66	1.03	0.83	1.28
77	1.61	1.25	2.06	1.38	1.08	1.75	1.07	0.87	1.31
82	1.66	1.23	2.24	1.43	1.05	1.93	1.09	0.85	1.41
HDL									
50	0.77	0.56	1.06	1.07	0.63	1.82	0.65	0.33	1.27
60	0.81	0.66	0.99	0.97	0.69	1.37	0.74	0.47	1.17
70	0.85	0.72	1.00	0.88	0.71	1.08	0.85	0.66	1.11
77	0.88	0.72	1.08	0.82	0.66	1.02	0.94	0.78	1.12
82	0.90	0.70	1.16	0.78	0.60	1.03	1.00	0.82	1.22
SBP									
50	1.38	0.96	1.98	3.28	1.82	5.90	2.16	1.21	3.88
60	1.31	1.05	1.64	2.31	1.59	3.36	1.74	1.19	2.54
70	1.24	1.07	1.45	1.63	1.33	2.00	1.40	1.13	1.72
77	1.20	0.99	1.46	1.28	1.05	1.55	1.20	1.01	1.42
82	1.17	0.91	1.51	1.07	0.83	1.39	1.07	0.86	1.34
Triglycerides									
50	1.04	0.93	1.16	0.86	0.56	1.33	1.09	0.90	1.31
60	1.05	0.97	1.13	0.88	0.66	1.17	1.04	0.92	1.18
70	1.06	0.95	1.17	0.90	0.76	1.07	1.00	0.90	1.11
77	1.06	0.91	1.24	0.91	0.77	1.08	0.97	0.85	1.11
82	1.07	0.88	1.29	0.92	0.74	1.15	0.95	0.81	1.12
Glucose									
50	1.14	0.99	1.32	1.05	0.82	1.33	0.97	0.78	1.20
60	1.10	1.01	1.19	1.04	0.90	1.21	1.00	0.87	1.14

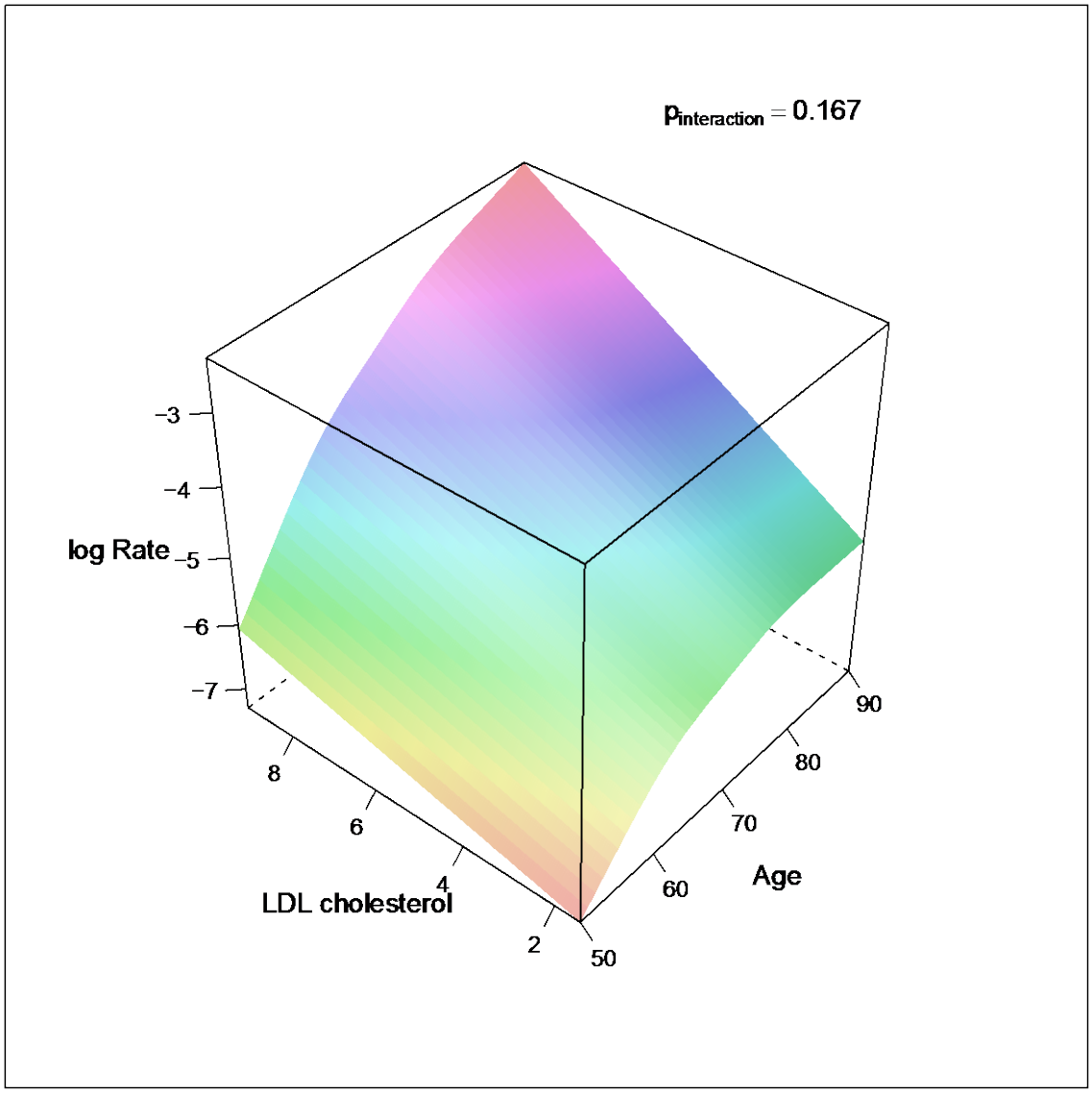
70	1.05	0.99	1.12	1.03	0.95	1.12	1.03	0.96	1.11
77	1.02	0.94	1.11	1.03	0.95	1.12	1.05	0.99	1.13
82	1.00	0.90	1.12	1.03	0.91	1.15	1.07	0.98	1.17
Smoking									
50	2.60	1.70	3.99	2.23	0.99	5.03	1.89	0.90	3.99
60	2.09	1.62	2.68	1.69	1.03	2.77	1.72	1.07	2.74
70	1.67	1.37	2.04	1.28	0.97	1.67	1.56	1.20	2.01
77	1.43	1.08	1.90	1.05	0.77	1.43	1.45	1.12	1.89
82	1.28	0.89	1.85	0.91	0.59	1.41	1.38	0.97	1.97

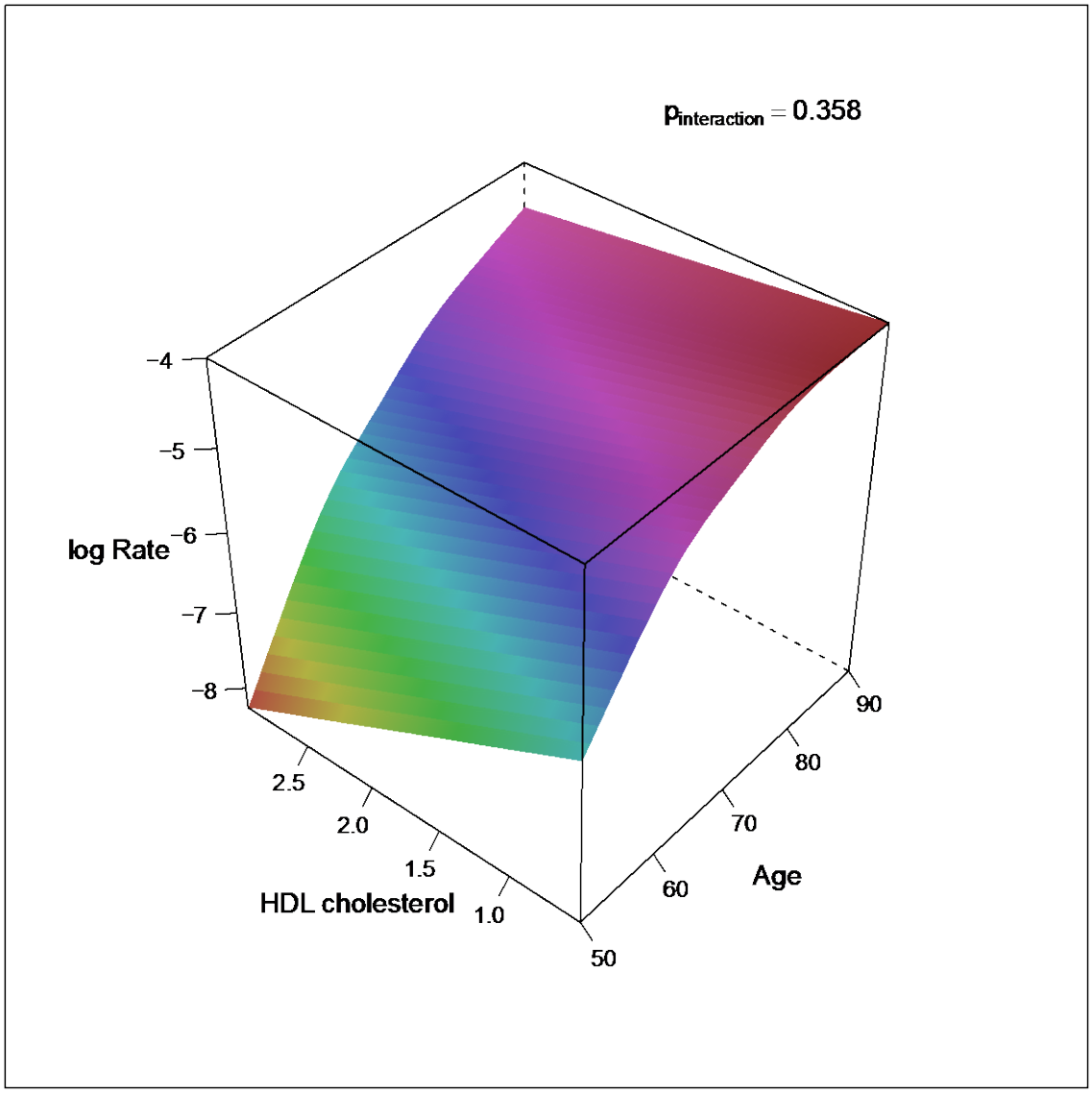
Table S8. RR (and 95% CI) and p-values for the associations between serum triglycerides and incident myocardial infarction, ischemic stroke and heart failure in models including serum triglycerides as the only risk factor (together with age) at ages 50, 60, 70, 77, and 82 years). The RR is based on an interquartile range (IQR) change in serum triglycerides.

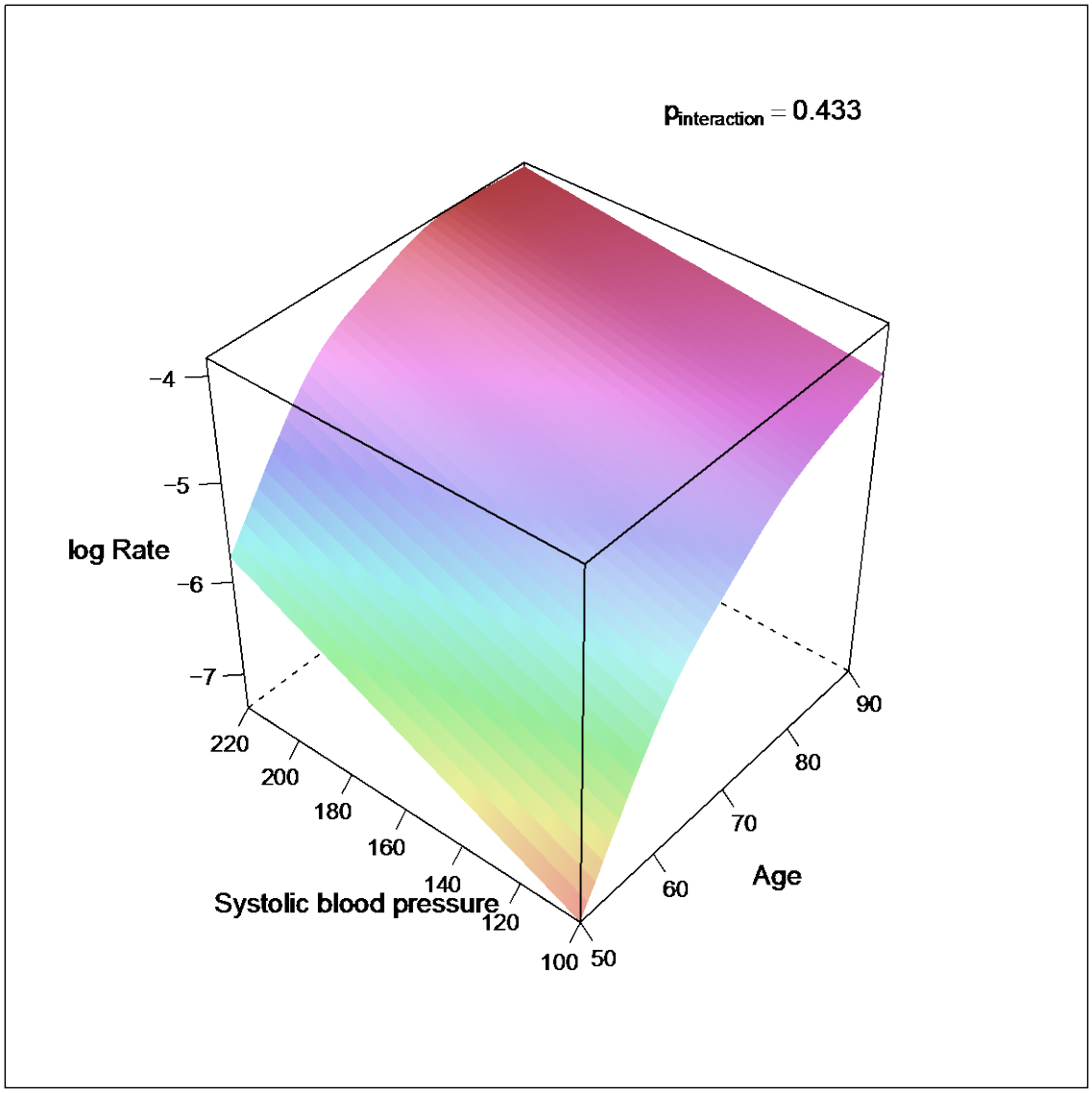
Outcome	RR	95% CI Upper	95% CI Lower	p-value
Myocardial infarction				
50	1.11	1.06	1.18	<0.001
60	1.15	1.10	1.19	<0.001
70	1.18	1.11	1.25	<0.001
77	1.20	1.10	1.31	<0.001
82	1.22	1.09	1.36	<0.001
Stroke				
50	1.09	0.91	1.30	0.346
60	1.08	0.97	1.21	0.179
70	1.07	0.98	1.18	0.143
77	1.07	0.95	1.20	0.300
82	1.06	0.91	1.23	0.442
Heart failure				
50	1.18	1.10	1.28	<0.001
60	1.16	1.10	1.23	<0.001
70	1.14	1.06	1.22	0.001
77	1.12	1.02	1.24	0.022
82	1.11	0.99	1.25	0.085

Figure S1. 3D graphs illustrating the impact of the different risk factors and age on the log incident rate of myocardial infarction. The p-values for the interaction term between those risk factors and age regarding myocardial infarction are given in the figures.




$p_{interaction} = 0.167$
log Rate
−3
−4
−5
−6
−7
LDL cholesterol
8
6
4
2
Age
50
60
70
80
90


$p_{interaction} = 0.358$
log Rate
−4
−5
−6
−7
−8
HDL cholesterol
2.5
2.0
1.5
1.0
Age
50
60
70
80
90


$p_{interaction} = 0.433$
log Rate
−4
−5
−6
−7
220
200
180
160
140
120
100
Systolic blood pressure
50
60
70
80
90
Age

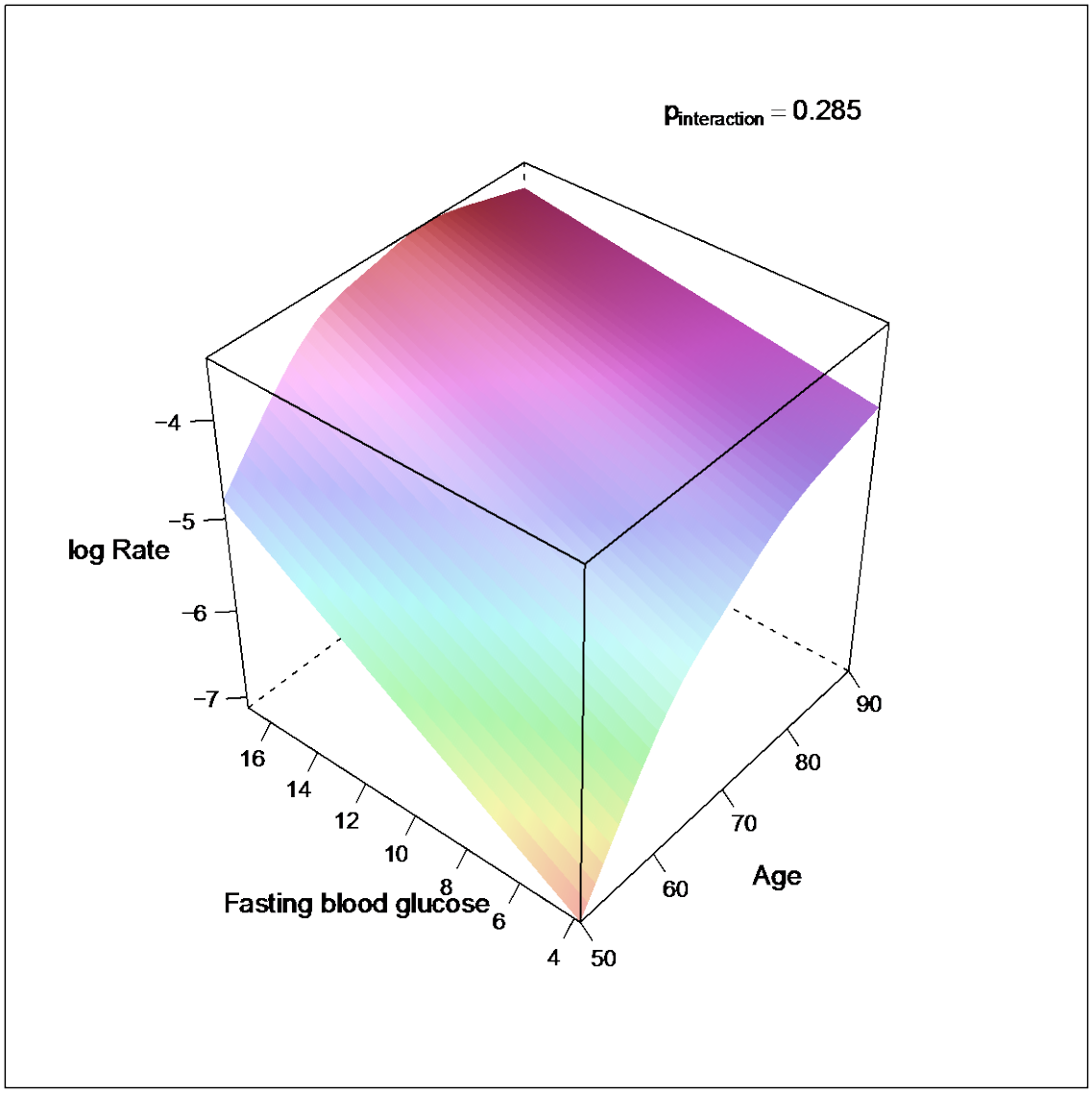
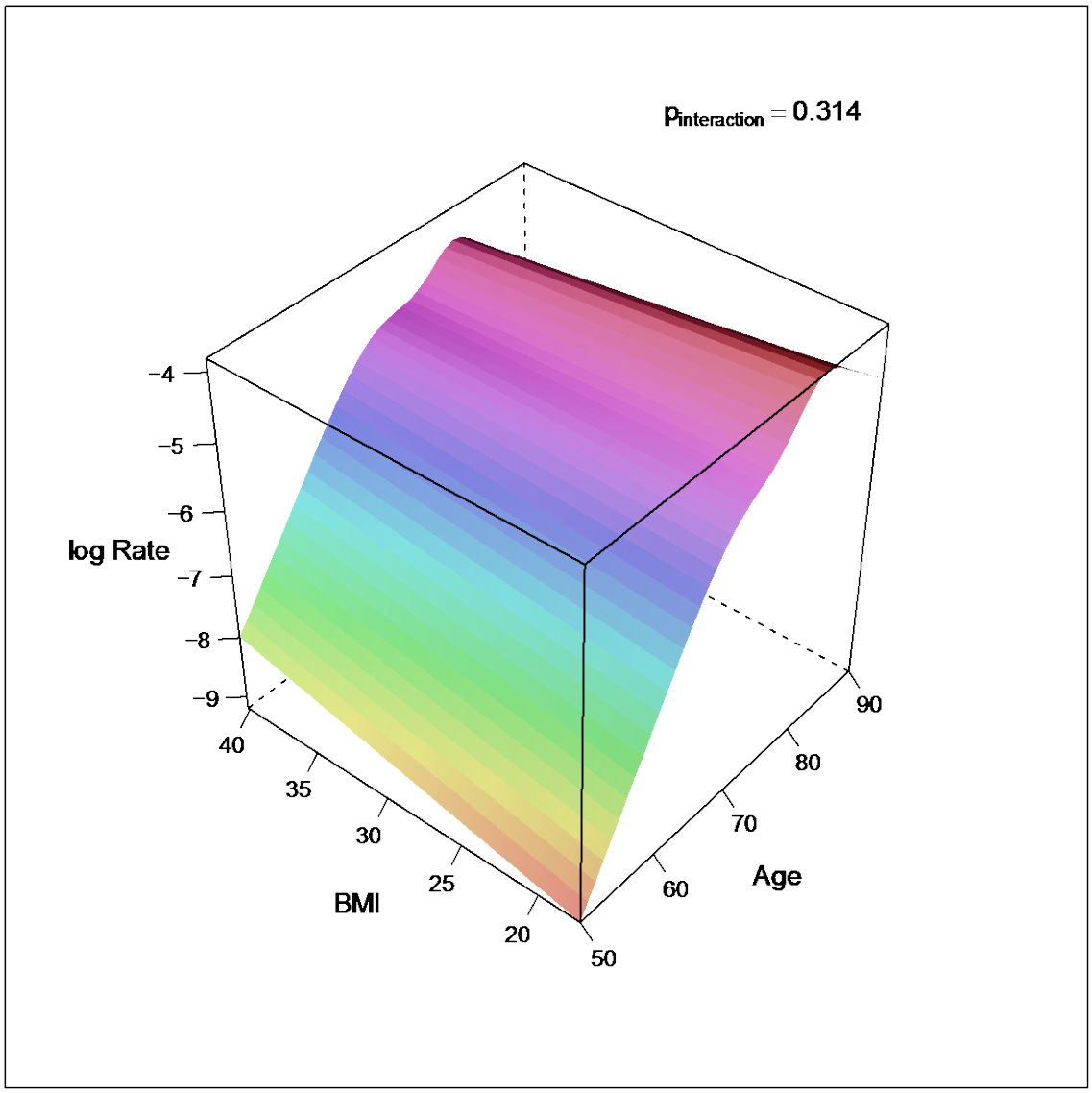
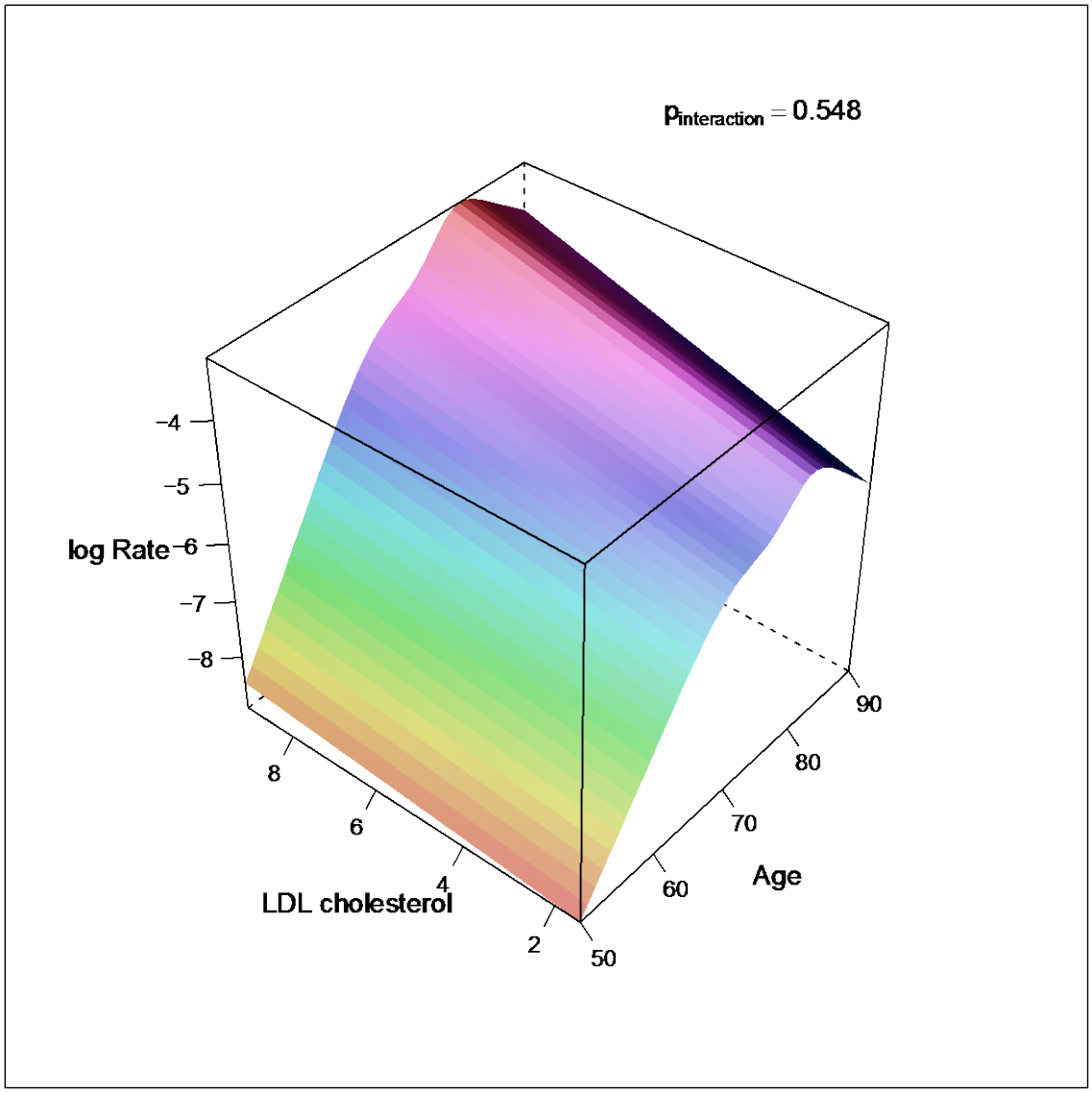

$p_{interaction} = 0.285$
log Rate
−4
−5
−6
−7
16
14
12
10
8
6
4
Fasting blood glucose
50
60
70
80
90
Age

Figure S2. 3D graphs illustrating the impact of the different risk factors and age on the log incident rate of ischemic stroke. The p-values for the interaction term between those risk factors and age regarding myocardial infarction are given in the figures.




$p_{interaction} = 0.548$
log Rate
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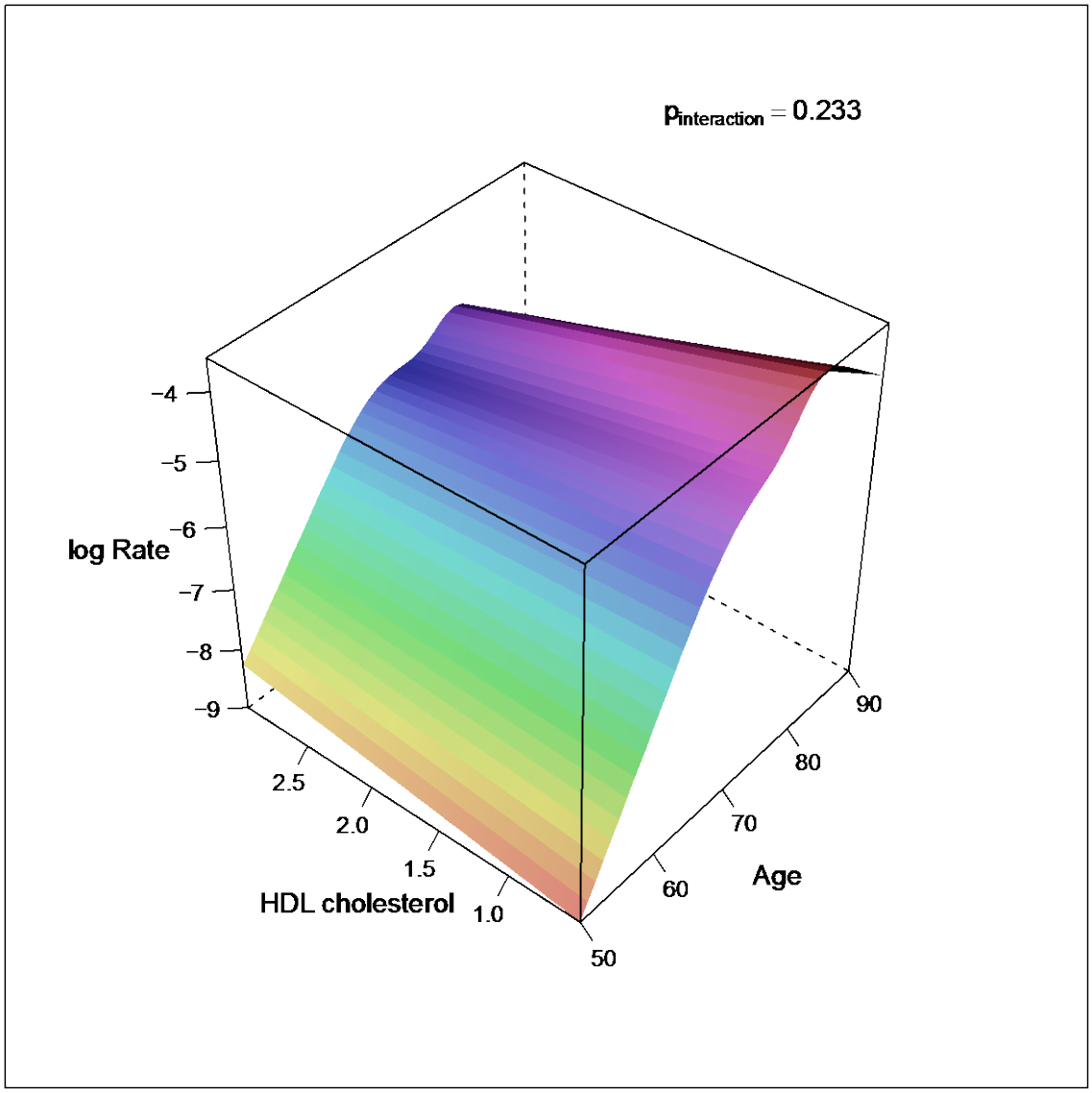
−5
−6
−7
−8
LDL cholesterol
8
6
4
2
Age
50
60
70
80
90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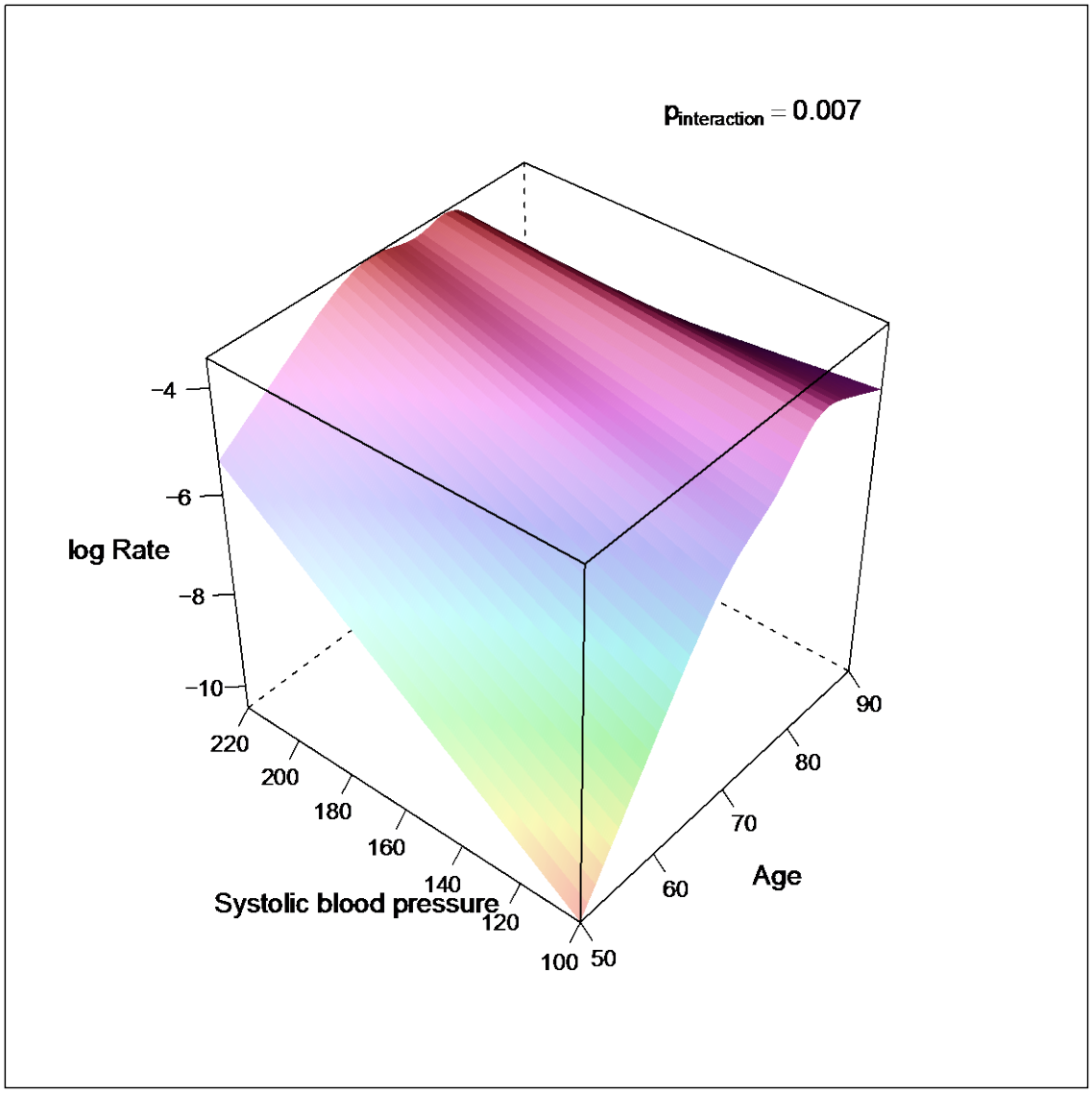
log Rate
−4
−5
−6
−7
−8
−9
HDL cholesterol
2.5
2.0
1.5
1.0
Age
50
60
70
80
90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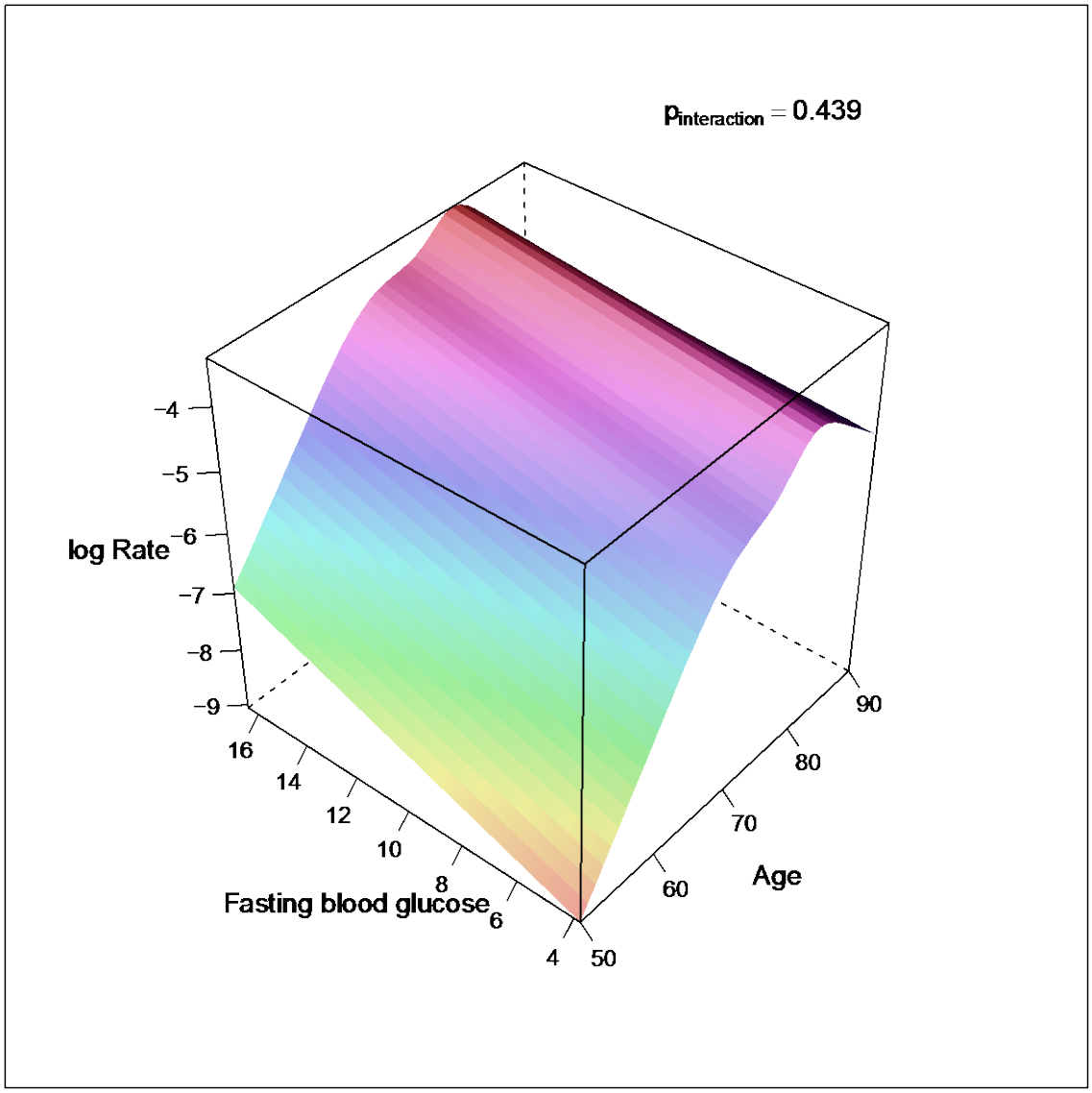
log Rate
−4
−6
−8
−10
Systolic blood pressure
220
200
180
160
140
120
100
Age
50
60
70
80
90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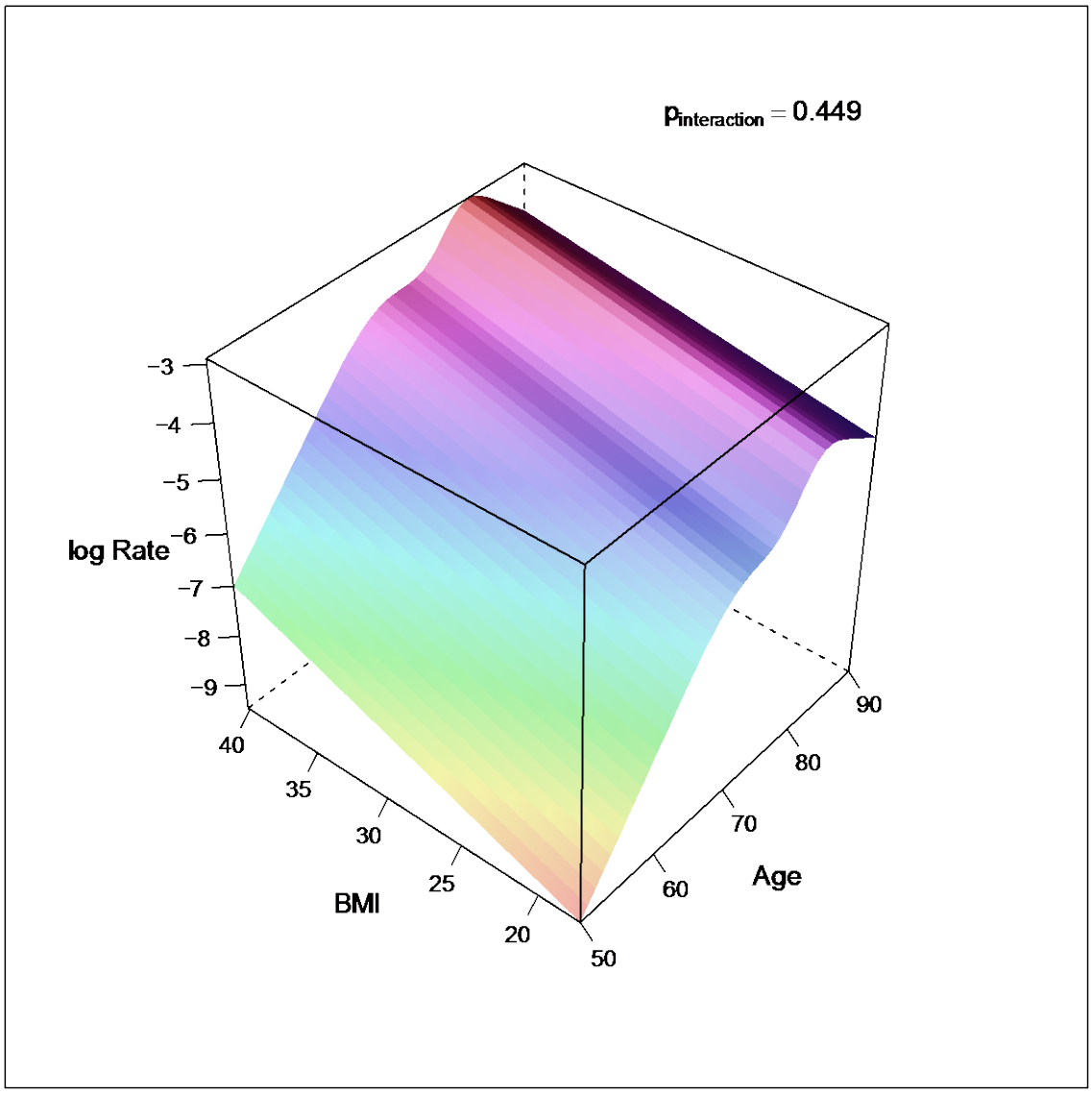
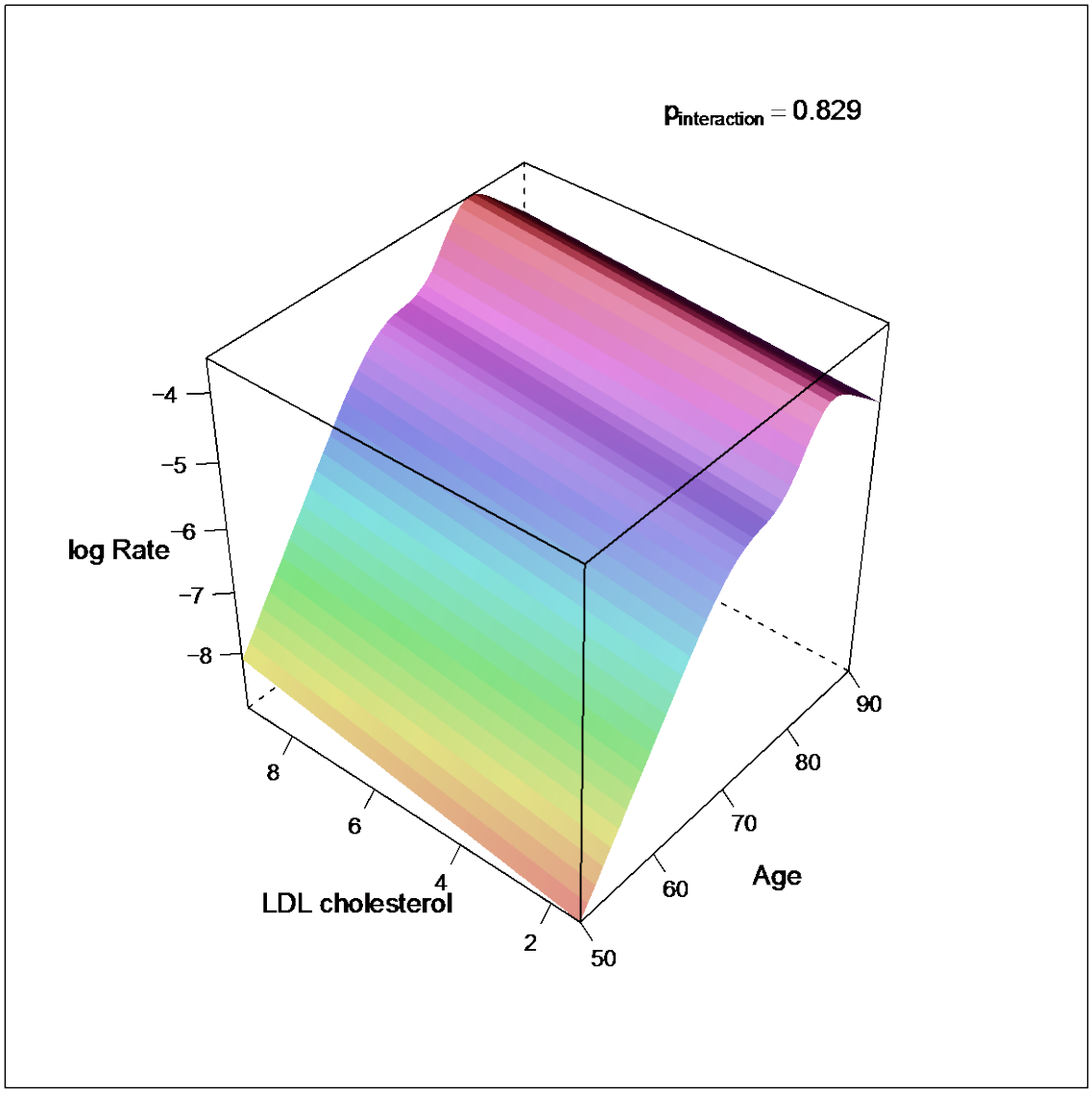
log Rate
−4
−5
−6
−7
−8
−9
Fasting blood glucose
16
14
12
10
8
6
4
Age
50
60
70
80
90

Figure S3. 3D graphs illustrating the impact of the different risk factors and age on the log incident rate of heart failure. The p-values for the interaction term between those risk factors and age regarding heart failure are given in the figures.

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log Rate
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−5
−6
−7
−8
LDL cholesterol
8
6
4
2
Age
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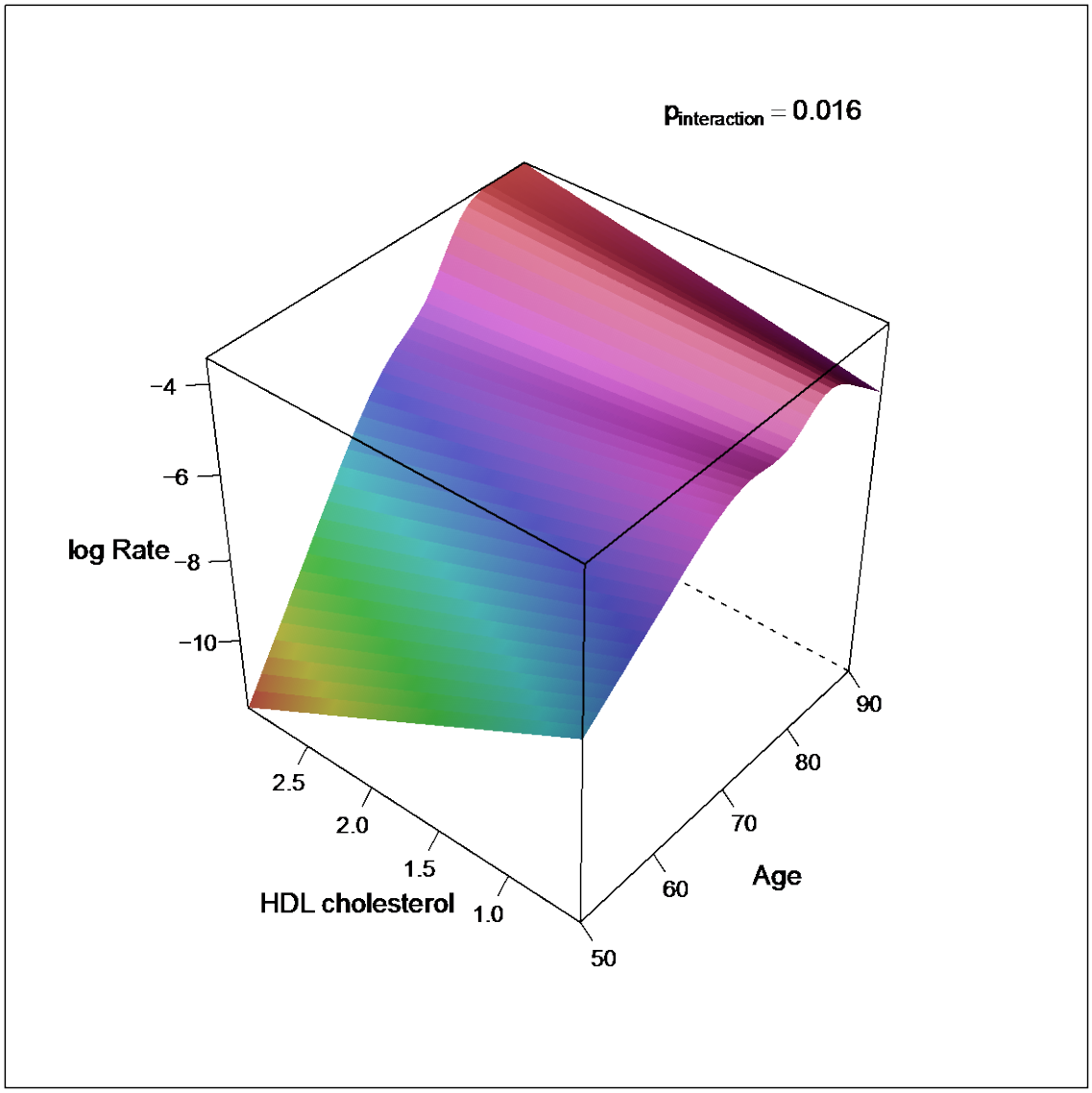
60
70
80
90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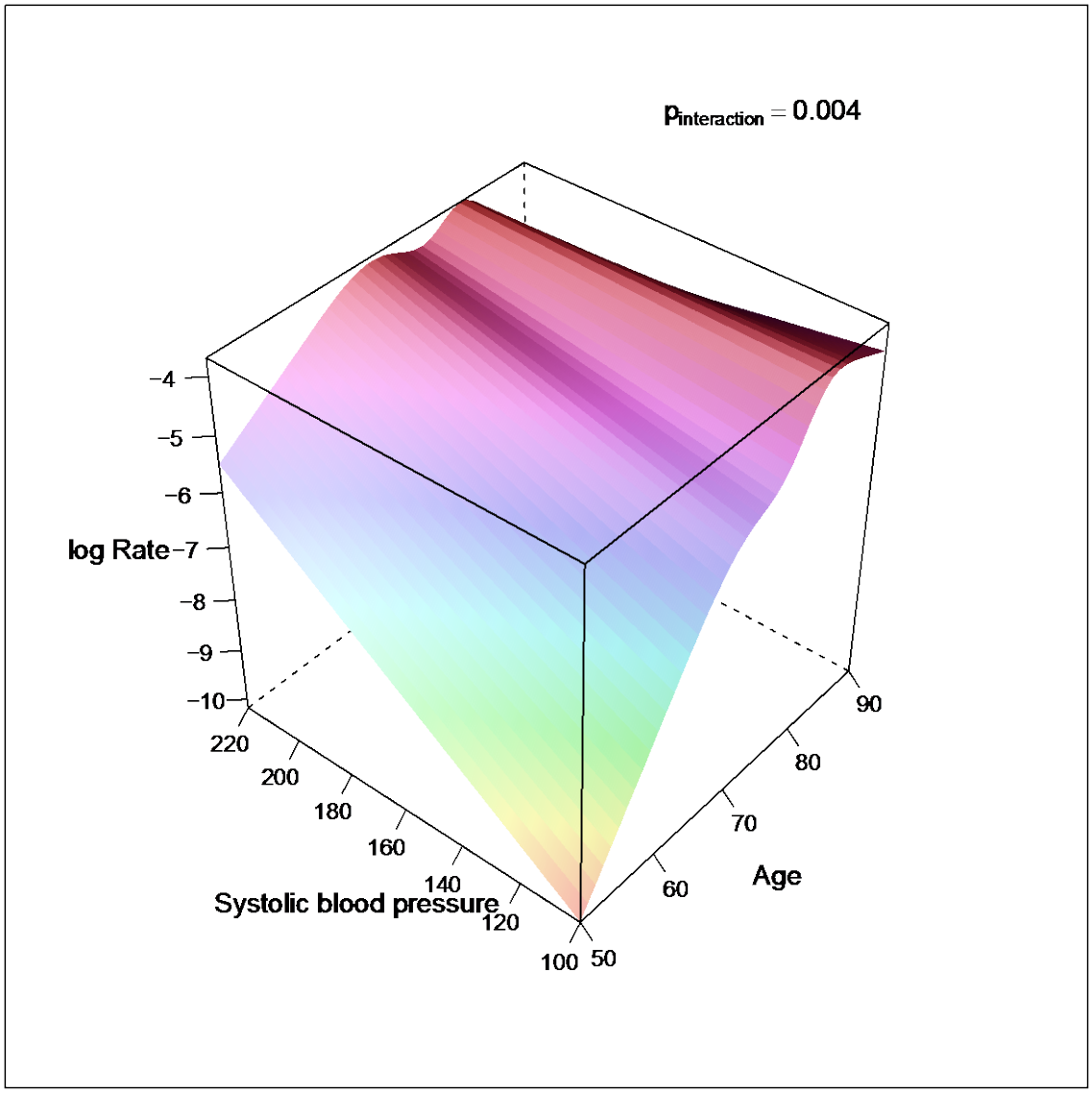
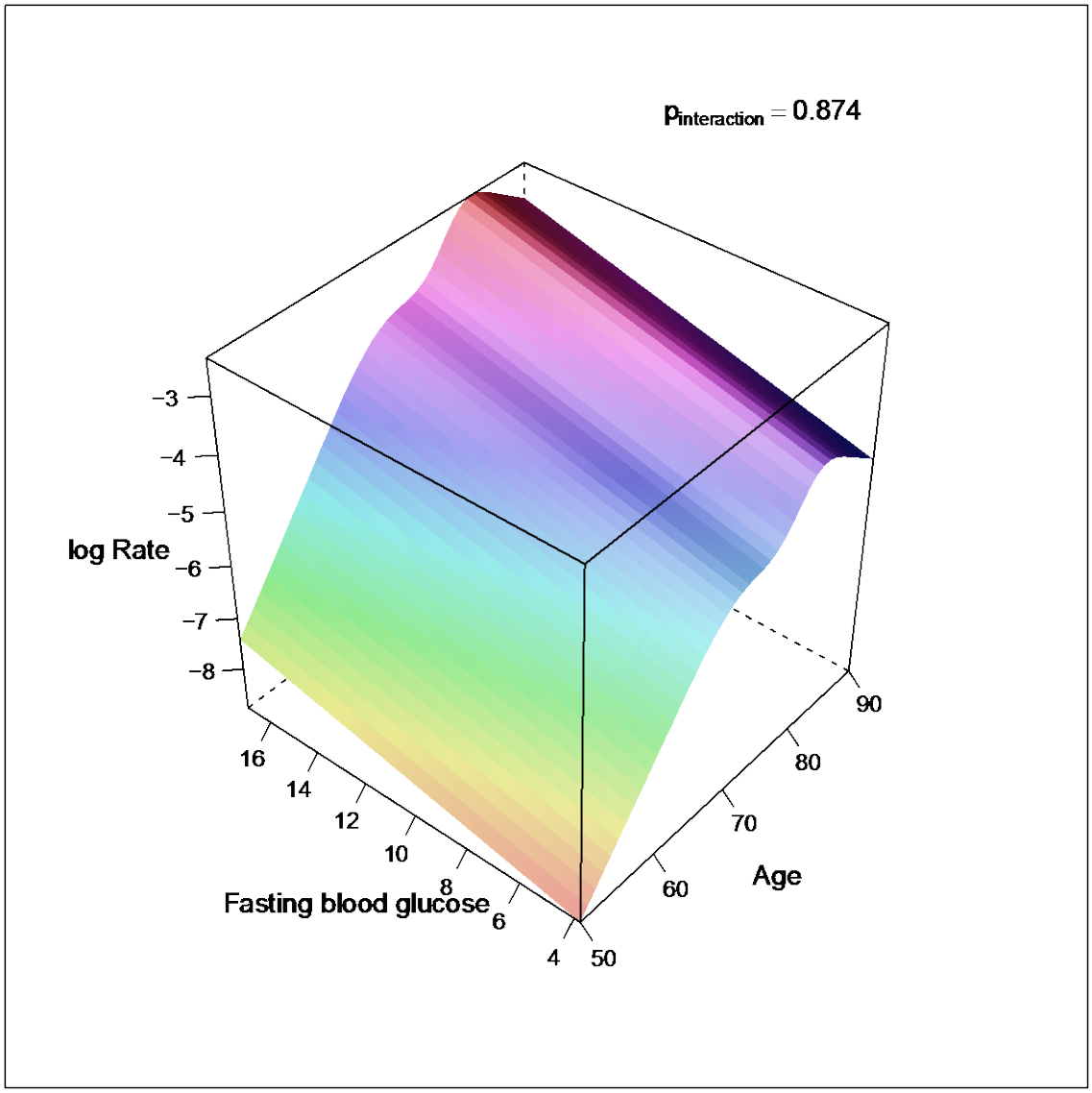
log Rate
−4
−6
−8
−10
HDL cholesterol
2.5
2.0
1.5
1.0
Age
50
60
70
80
90


$p_{interaction} = 0.004$
log Rate
−4
−5
−6
−7
−8
−9
−10
Systolic blood pressure
220
200
180
160
140
120
100
Age
50
60
70
80
90


$p_{interaction} = 0.874$
log Rate
−3
−4
−5
−6
−7
−8
Fasting blood glucose
16
14
12
10
8
6
4
Age
50
60
70
80
90