

1 **ORIGINAL ARTICLE**

2 **Phenotypic landscape of systemic lupus erythematosus: An analysis of the Kyoto Lupus Cohort**

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26

27 **Abstract**

28 **Objective:** The present study aimed to clarify comprehensive relationships among the clinical variables of systemic
29 lupus erythematosus (SLE).

30 **Methods:** We retrospectively surveyed 32 clinical variables in 581 patients and conducted comprehensive
31 association studies among SLE clinical phenotypes. A univariate analysis of all possible combinations was
32 performed, and the results of phenotypic correlations were reduced into two dimensions. We also created a
33 regression formula using L1 regularization (LASSO) to calculate the probability of exhibiting each phenotype.

34 **Results:** The univariate analysis identified 26 correlations, including multiple phenotypes with low complement.
35 Some unpredicted correlations were identified, including fever and the anti-Sm antibody (odds ratio; OR = 2.3, $p =$
36 1.6×10^{-5}) or thrombocytopenia and psychosis (OR = 3.7, $p = 3.2 \times 10^{-5}$). The multivariate analysis accurately
37 estimated the probability of exhibiting each phenotype (area under the curve > 0.7) in 10 out of 20 phenotypes.

38 **Conclusion:** The present results show the phenotypic architecture of SLE and represent a model for estimating the
39 probability of exhibiting each phenotype. They also offer insights into the pathology of SLE and estimating the
40 probability of the onset of new phenotypes in clinical practice.

41

42 **Introduction**

43 Systemic lupus erythematosus (SLE) is an autoimmune disorder with variable manifestations, courses, and
44 prognoses. Similarities and differences in its pathogenesis across each clinical phenotype have not yet been elucidated.
45 From a clinical viewpoint, estimations of the probability of having each clinical symptom are essential in outcome

46 predictions, patient guidance, and treatment selection. However, a predictive tool is not yet available in clinical
47 practice, and the management of patients largely depends on a physician's experience.

48 A more detailed understanding of the relationships among clinical indices using cohort data may provide
49 insights into the pathogenesis of SLE and contribute to the development of a predictive tool. There are more than 100
50 cohorts of SLE (1); however, few have examined the architecture of phenotypes in terms of relationships among
51 phenotypes. Omics studies previously reported that symptoms and diseases may be predicted by a single nucleotide
52 polymorphism (2), genetic risk scores (3), gene expression levels (4), or cytokines (5). However, this material is
53 generally unavailable and difficult to adopt in daily clinical practice. By using information on the clinical phenotypes
54 of many SLE patients and clarifying comprehensive relationships among these phenotypes, new relationships and
55 common pathological mechanisms may be identified among these phenotypes and other phenotypes from different
56 mechanisms may be revealed.

57 In the present study, we examined the relationships among autoantibodies, symptoms, and the
58 complications of SLE, which are not considered in daily clinical practice, and estimated the probability of the
59 manifestation of symptoms.

60

61 **Methods**

62 **Study population, design, and data collection.** The study flow is shown in Supplementary Figure S1. The
63 Kyoto Lupus Cohort (KLC) is a single-center cohort of SLE at Kyoto University Hospital. Patients with a clinical
64 diagnosis of SLE by an attending rheumatologist experienced in SLE are registered in this cohort. By 1st December

65 2018, 581 patients had been registered. Among these patients, we retrospectively surveyed the presence or absence
66 of the following 32 clinical indices from medical records and patient interviews; antinuclear antibodies (ANA), 22
67 items included in the European League Against Rheumatism/American College of Rheumatology classification
68 criteria (The 2019 EULAR/ACR classification criteria) (6), seven complications (antiphospholipid antibody
69 syndrome (APS), transverse myelitis, pulmonary hypertension, diffuse alveolar hemorrhage (DAH), thrombotic
70 microangiopathy (TMA), lupus enteritis, and hemophagocytic syndrome), the anti-U1 RNP antibody, and the anti-
71 SS-A (Ro) antibody. The diagnosis of APS was based on the international consensus (revised Sapporo) criteria (7).
72 We also surveyed age at the survey, sex, the onset of SLE (defined as the time of the SLE diagnosis, regardless of
73 meeting the classification criteria, but when the attending physician started intent-to-treat care for SLE), and the last
74 visit before December 2018. All 36 clinical indices surveyed are listed in Supplementary Table S1. Using the data
75 collected, we judged whether each patient fulfilled the 2019 EULAR/ACR classification criteria (6). Physicians
76 obtained verbal and written consent from patients before conducting the survey. As for patients who lost to follow-
77 up, they were given the opportunity to opt-out. The present study was designed in accordance with the Helsinki
78 Declaration and was approved by the Kyoto University Graduate School and Faculty of Medicine Ethics Committee
79 (approval number: R1452-1, R1540-2).

80

81 **Statistical analysis.** In the univariate analysis, two variables were extracted from 32 variables (22 items in
82 the 2019 EULAR/ACR classification criteria, seven complications, sex, the anti-RNP antibody, and the anti-SS-A
83 antibody), and relationships were analyzed for all combinations (${}_{32}C_2 = 496$). We used Fisher's exact test on two-by-

84 two contingency tables with or without each variable. We used Fisher’s test function in R (ver. 3.4.4). We set the
85 significance threshold to $p = 1.0 \times 10^{-4}$ to correct 496 multiple tests. To visualize the results of the univariate analysis,
86 we used nominal significant ($p < 0.05$) associations. Each node's position was determined so that the ones that are
87 more strongly correlated with each other are closer using the Fruchterman–Reingold algorithm implemented in the
88 NetworkX package (ver. 2.1) in Python.

89 In the principal component analysis (PCA), we excluded “low C3 and C4” because of phenotypic overlap
90 with “low C3 or C4”. We excluded 166 patients in which any of the 31 variables were missing. Therefore, we used a
91 matrix of 355 patients with 31 variables for PCA. We conducted the analysis using the scikit-learn package (8) (ver.
92 0.20.4) in Python.

93 The flow of the multivariate analysis is shown in Supplementary Figure S2. The preparation of patients
94 and variables consisted of three steps. We excluded variables that showed a strong correlation with other variables.
95 We also excluded patients with at least one missing value. Furthermore, we excluded delirium, acute pericarditis, and
96 TMA from objective variables because their positive rates in the training or test set (described below) were less than
97 1%. We further excluded “low C3 or low C4”, anti-dsDNA, the anti-Sm antibody, sex, and anti-SS-A from objective
98 variables because the prediction of these variables has no clinical value. Furthermore, when the objective variable
99 was autoimmune hemolysis, TMA was excluded from the explanatory variable. When the objective variable was
100 class II or V lupus nephritis, class III or IV lupus nephritis was excluded from the explanatory variable, and vice
101 versa. Regarding each objective variable, all other variables were used as explanatory variables. Prior to conducting
102 the regression analysis, all explanatory variables were standardized. We used a logistic regression model using L1

103 regularization (LASSO) (9). We set the penalty parameter, λ , as the value that maximized the area under the curve
104 (AUC) in 10-fold cross-validation ('cv.glmnet' parameter type.measure = 'auc'). We used the area under the curve
105 (AUC) to evaluate the accuracy of the model obtained. We used 285 patients as a training set (onset before 31st March
106 2012) and the remaining 73 patients (onset after 1st April 2012) as a test set. We assessed the above analysis using
107 the glmnet package (10) (ver. 3.0-2) implemented in R. To define predictive accuracy, AUC below 0.6 was considered
108 to be worthless, between 0.6 and 0.7 as poor, between 0.7 and 0.8 as fair, between 0.8 and 0.9 as good, and above 0.9
109 as excellent predictive accuracy.

110

111 **Results**

112 **Demographic and clinical characteristic of patients**

113 We retrospectively surveyed 32 clinical indices in 581 patients registered in KLC by 1st December 2018. In total, 521
114 out of 581 patients satisfied the 2019 EULAR/ACR classification criteria, and this population was used for further
115 analyses. The average age of patients at the survey was 48.1 ± 15.1 years, and the follow-up time, defined as the
116 period from the onset of SLE to the last visit, was 16.3 ± 11.8 years. The missing rate for each clinical phenotype
117 was less than 9.4% (Supplementary Table S2), and those in 92% of patients were less than 6.3%. The positive rate
118 for each clinical phenotype is shown in Supplementary Table S3. The positive rates of each item were similar to those
119 in previous studies (11-13), which reported the positive rates of clinical indices in the 2019 EULAR/ACR
120 classification criteria (Supplementary Table S4).

121

Comprehensive univariate analysis across all possible combinations of clinical phenotypes

We conducted a univariate analysis among all possible combinations of the 32 variables (22 items in the 2019 EULAR/ACR classification criteria, seven complications, sex, the anti-RNP antibody, and the anti-SS-A antibody) (${}_{32}C_2 = 496$ combinations) in 521 patients. The results of the significance of all combinations are shown in Supplementary Figure S3 and Supplementary Table S5. Twenty-six correlations were detected ($p < 1.0 \times 10^{-4}$) (Table 1). Known correlations, such as the anti-Sm antibody and anti-RNP antibody (14) ($OR = 20.2, p = 1.4 \times 10^{-44}$) or the anti-Sm antibody and anti SS-A antibody (15) ($OR = 2.4, p = 1.2 \times 10^{-5}$), were replicated in the present study. We also found that low C3 and low C4 correlated with multiple variables (the anti-dsDNA antibody, proteinuria, thrombocytopenia, Class III or IV lupus nephritis, autoimmune hemolysis, the anti-Sm antibody, and low C3 or low C4). Some correlations were not well known, such as fever and the anti-Sm antibody ($OR = 2.3, p = 1.6 \times 10^{-5}$) or thrombocytopenia and psychosis ($OR = 3.7, p = 3.2 \times 10^{-6}$). All 26 significant pairs showed positive correlations, suggesting that the existence of one variable increased the risk of the existence of the other variable.

To visualize the phenotypic network of SLE, we extracted 105 correlations, which showed nominal significance ($p < 0.05$), and placed each phenotype (expressed as “node”) so that the strongly correlated phenotypes were closer together (Figure 1). We found that low C3 and C4/low C3 or C4 were positioned in the center of the figure and correlated with multiple phenotypes. Items of physical symptoms (shown in red) placed closer together and made a cluster. Autoantibodies or low complement (shown in cyan) items also placed closer together. We found several correlations that were previously unknown. For example, patients with antiphospholipid antibody syndrome had a higher risk of seizure or delirium as well as thrombocytopenia. Patients with a positive anti-dsDNA antibody

141 had a higher risk of class III or IV lupus nephritis, and those with hemophagocytic syndrome had a higher risk of
142 psychosis. Like these examples, by drawing a phenotypic network, we can identify the risk of exhibiting another trait
143 when one trait is present.

144 The univariate analysis also revealed relationships among rare and severe complications. For example,
145 DAH correlated with multiple phenotypes, including joint involvement (OR = 0.18, $p = 0.01$), proteinuria (OR = 11.5,
146 $p = 0.01$), thrombocytopenia (OR = 4.2, $p = 0.04$), and autoimmune hemolysis (OR = 4.2, $p = 0.04$). In addition,
147 patients with acute cutaneous lupus were unlikely to have pulmonary hypertension (OR=0.22, $p = 3.3 \times 10^{-3}$), and
148 transverse myelitis correlated with III/IV type lupus nephritis (OR = 6.1, $p = 0.02$).

149

150 **PCA of clinical phenotypes of SLE**

151 To investigate whether patients may be stratified into subgroups based on clinical phenotype data, we
152 conducted PCA, which is a dimensionality reduction technique that transforms input data into orthogonal components
153 that maximize the variance in transformed data. The results obtained showed no clear evidence of stratification by
154 visual assessments (Supplementary Figure S4a). We calculated Pearson's correlation coefficient with the first
155 principal component (PC) 1 and 31 clinical indices and found that thrombocytopenia showed the highest correlation
156 ($r^2 = 0.49$, Supplementary Table S6, and Supplementary Figure S4b). When we compared patients with and without
157 thrombocytopenia, we found that patients with thrombocytopenia were more likely to have autoimmune hemolysis,
158 psychosis, TMA, antiphospholipid antibodies, APS, "low C3 or low C4", hemophagocytic syndrome, leukopenia,
159 DAH, and fever ($p < 0.05$, Supplementary Table S7). These results indicate that SLE patients have a wide variety of

160 phenotypic combinations but may be divided by the presence of thrombocytopenia.

161

162 **Estimation of the probability of each phenotype by a LASSO regression analysis**

163 To investigate whether it is possible to estimate the probability of having one phenotype from a combination
164 of other phenotypes, we conducted a multivariate analysis. Prior to the analysis, we excluded three variables that
165 strongly correlated with other phenotypes (see Methods) and excluded patients with at least one missing value (n =
166 155). After these exclusions, no correlations were observed among the remaining variables (Supplementary Table S8,
167 Pearson's correlation coefficient < 0.57). We used the LASSO regularized regression method, which gives the sum
168 of coefficients as a penalty to the sum of least squares. An advantage of this regression is that it reduces overfitting
169 to the training set. We created a regression model in a training set (onset of SLE before April 2012, n = 285) and
170 applied it to the independent group (test data, onset of SLE after April 2012, n = 73) to assess model performance.
171 The models created are shown in Figure 2 and Supplementary Table S9. We found that the accuracy of predicting
172 seizures was excellent (AUC = 0.91), that of predicting class III or IV lupus nephritis, DAH, and proteinuria was
173 good (AUC = 0.84, 0.82, and 0.81, respectively), and that of predicting class II or V lupus nephritis, autoimmune
174 hemolysis, acute cutaneous lupus, subacute cutaneous/discoid lupus, non-scarring alopecia, and pulmonary
175 hypertension was fair (AUC > 0.7) (Figure 2). Receiver operating characteristic curves (ROC curves) for all objective
176 variables are shown in Supplementary Figure S5. These results indicate that it is possible to estimate the probability
177 of having one phenotype with combinations of other phenotypes.

178

179 **Discussion**

180 We conducted a comprehensive inter-phenotype association study on SLE and demonstrated that it is
181 possible to estimate the probability of having one symptom from other phenotypes. Previous studies examined the
182 relationships among the clinical phenotypes of SLE, such as those among anti-Sm antibodies (16) or anti-ds-DNA
183 antibodies (17) and other clinical traits or those among items in the same organ (18). However, to the best of our
184 knowledge, this is the first study to comprehensively clarify the relationships among all clinical phenotypes across
185 different categories.

186 The univariate analysis revealed several clinically unknown relationships, such as fever and the anti-Sm
187 antibody or thrombocytopenia and psychosis. Previous studies reported that anti-Sm antibodies were more likely to
188 appear in severe subtypes (19) (20). Fever was shown to be associated with high disease activity (21). Therefore, the
189 correlation between these two items may have been due to common conditions in severe SLE patients. The correlation
190 between thrombocytopenia and psychosis may be attributed to the pathogenesis of consumptive thrombocytopenia
191 in some patients with SLE because microthrombi are commonly observed in the pathology of neuropsychiatric SLE
192 (22). The common pathology that underlies these correlated sub-phenotypes needs to be examined in more detail
193 using a multi-omics approach, such as transcriptomic or proteomics studies.

194 A multivariate regression analysis showed that accurate estimations of the probability of exhibiting each
195 phenotype (area under the curve > 0.7) were possible in 10 out of 20 phenotypes. Seizures were accurately predicted
196 based on psychiatric symptoms (AUC=0.91), which indicated that this analysis functions well as a positive control.
197 In addition, we demonstrated that phenotypes that were initially considered to be difficult to predict, such as

198 pulmonary hypertension and alveolar hemorrhage, were fairly predicted (AUC=0.72 and 0.82, respectively).

199 The limitations of the present study were as follows. 1) Estimations of the probabilities of having a
200 phenotype were not based on data from initial symptoms, but from the sum of all lupus-related symptoms during the
201 follow-up. Therefore, the usefulness of the results obtained in the present study need to be confirmed in a prospective
202 cohort study in the future. 2) Some absent variables may not have been obtained for several reasons. For example,
203 some patients may not have undergone renal biopsy due to thrombocytopenia, which may become a bias. In addition,
204 some variables may become positive later in the clinical course. 3) We did not perform a multivariate regression
205 analysis of objective variables with a very low positive rate (delirium, acute pericarditis, and TMA). The collection
206 of more samples may overcome this limitation in future studies. 4) Relationships with nominal significance ($p < 0.05$)
207 were used to draw a phenotypic network of SLE. Therefore, we need another cohort or larger number of samples to
208 validate potential relationships.

209 Although the positive rate for each phenotype in our cohort of a single ethnicity was similar to those of
210 other cohorts with other ethnicities, previous studies indicated a difference in clinical characteristics based on
211 ethnicity (23). Therefore, our results will prompt further study on the global phenotypic landscape of SLE.

212 The incorporation of genetic sequences, gene expression levels, and cytokines may contribute to the
213 development of more accurate predictive models. However, these data are not currently available in daily clinical
214 practice. The predictive model created from clinically available items only is presumed to be useful.

215

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218 physicians who substantially contributed to the acquisition of data.

219

220 **Conflict of interest**

221 None

222

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288

289 **Figure legends**

290 **Figure 1. Phenotypic correlation network of SLE**

291 Relationships among all phenotypes with nominal significance ($p < 0.05$) are shown. Each clinical variable is
292 expressed as a node. The distance between each node is inversely proportional to their relationships, $-\log_{10}(p)$, and
293 the line width is proportional to $-\log_{10}(p)$. The blue line represents a positive correlation (Odds ratio (OR) ≥ 1), and
294 the orange line a negative correlation (OR < 1). The size of the node is proportional to its positive rate. Abbreviations:
295 II/V LN: Class II or V lupus nephritis, III/IV LN: Class III or IV lupus nephritis, alopecia: Non-scarring alopecia,
296 aPL: Antiphospholipid antibodies, APS: Antiphospholipid syndrome, C3/C4: Low C3 or low C4, C3&C4: Low C3
297 and low C4, DAH: diffuse alveolar hemorrhage, Discoid lupus: Subacute cutaneous/discoid lupus, dsDNA ab: Anti-
298 dsDNA antibodies, Hb \downarrow : Autoimmune hemolysis, HPS: Hemophagocytic syndrome, PLT \downarrow : Thrombocytopenia, RNP
299 ab: Anti-RNP ab, SS-A ab: Anti-SS-A antibody, TMA: Thrombotic microangiopathy, WBC \downarrow : Leukopenia, and Sm
300 ab: Anti-Sm antibodies.

301

302 **Figure 2. Results of a multivariate analysis (LASSO regression)**

303 The horizontal axis represents explanatory variables and the vertical axis shows objective variables. The color of
304 each square represents the value of the coefficient of each explanatory variable. The larger size of the square
305 corresponds to the larger value of the area under the curve (AUC) for predicting each objective variable.

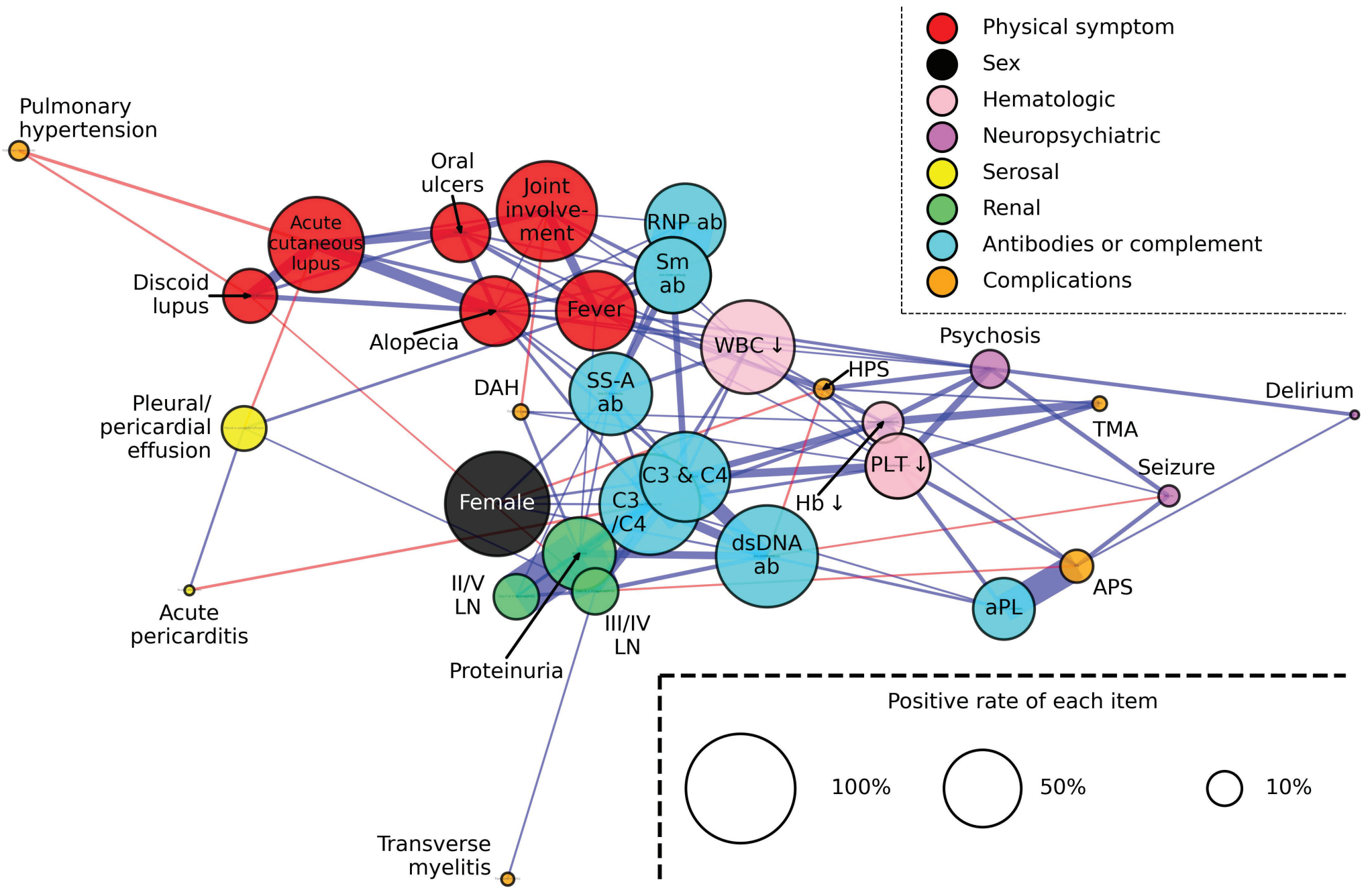
306 Abbreviations: TMA: thrombotic microangiopathy

Table 1. List of correlating items ($p < 1.0E-4$)

OR: Odds ratio, CI: Confidence interval

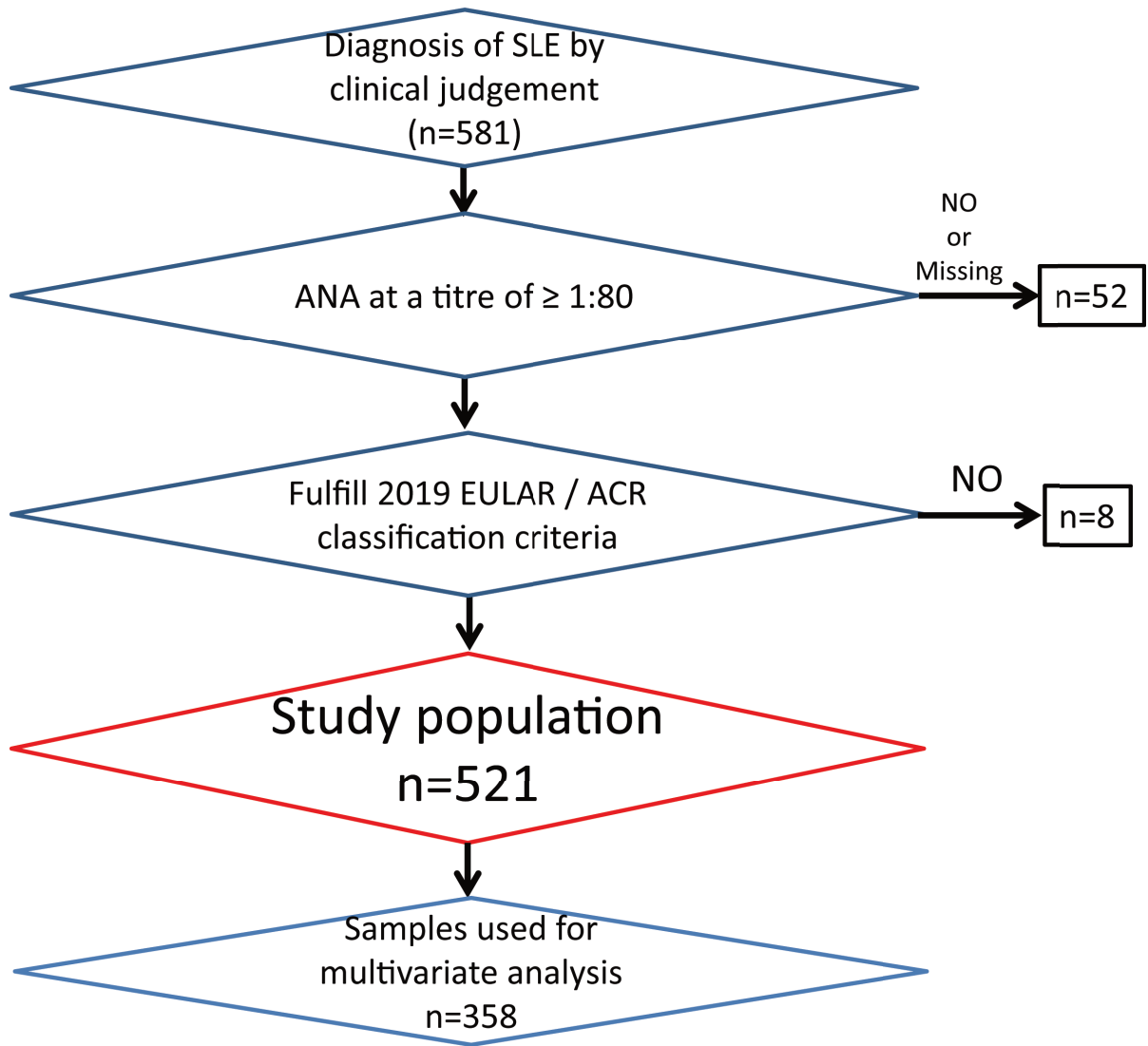
Item1	Item2	P value	OR (95% CI)
Anti-Sm antibody	Anti-RNP antibody	1.38E-44	20.15 (12.2-34.15)
Anti-Sm antibody	Anti-SS-A antibody	1.21E-05	2.35 (1.58-3.51)
Antiphospholipid syndrome	Antiphospholipid antibodies	1.15E-21	62.29 (15.85-537.41)
Fever	Joint involvement	8.87E-08	4.01 (2.3-7.19)
Fever	Anti-Sm antibody	1.60E-05	2.28 (1.54-3.38)
Low C3 and low C4	Anti-dsDNA antibody	6.38E-12	7.1 (3.88-13.29)
Low C3 and low C4	Proteinuria	2.37E-10	4.39 (2.65-7.47)
Low C3 and low C4	Thrombocytopenia	6.83E-07	3.37 (2.01-5.84)
Low C3 and low C4	Class III or IV lupus nephritis	1.27E-06	5.86 (2.48-16.91)
Low C3 and low C4	Autoimmune hemolysis	8.93E-06	6.67 (2.4-25.8)
Low C3 and low C4	Anti-Sm antibody	1.41E-05	2.64 (1.67-4.21)
Low C3 and low C4	Low C3 or low C4	3.09E-49	NA (111.4-)
Low C3 or low C4	Proteinuria	1.92E-08	5.72 (2.81-12.88)
Low C3 or low C4	Anti-dsDNA antibody	7.72E-08	5.36 (2.85-10)
Low C3 or low C4	Class III or IV lupus nephritis	7.40E-06	17.99 (3.03-728.54)
Non-scarring alopecia	Acute cutaneous lupus	3.70E-09	4.19 (2.47-7.35)
Oral ulcers	Acute cutaneous lupus	2.31E-07	4.25 (2.27-8.56)
Oral ulcers	Joint involvement	1.96E-05	4.07 (1.96-9.53)
Proteinuria	Class III or IV lupus nephritis	7.32E-38	200.77 (34.36-7698.9)
Proteinuria	Class II or V lupus nephritis	6.98E-36	186.31 (31.85-7177.96)
Proteinuria	Anti-dsDNA antibody	1.86E-06	4.11 (2.14-8.43)
Subacute cutaneous/discoid lupus	Acute cutaneous lupus	2.55E-09	7.86 (3.36-22.52)
Thrombocytopenia	Psychosis	3.15E-06	3.71 (2.06-6.83)
Thrombocytopenia	Autoimmune hemolysis	6.42E-15	8.84 (4.72-17.52)
Thrombocytopenia	Thrombotic microangiopathy	9.31E-05	NA (3.6-)

Thrombotic microangiopathy	Autoimmune hemolysis	9.46E-07	53.45 (6.97-2372.99)
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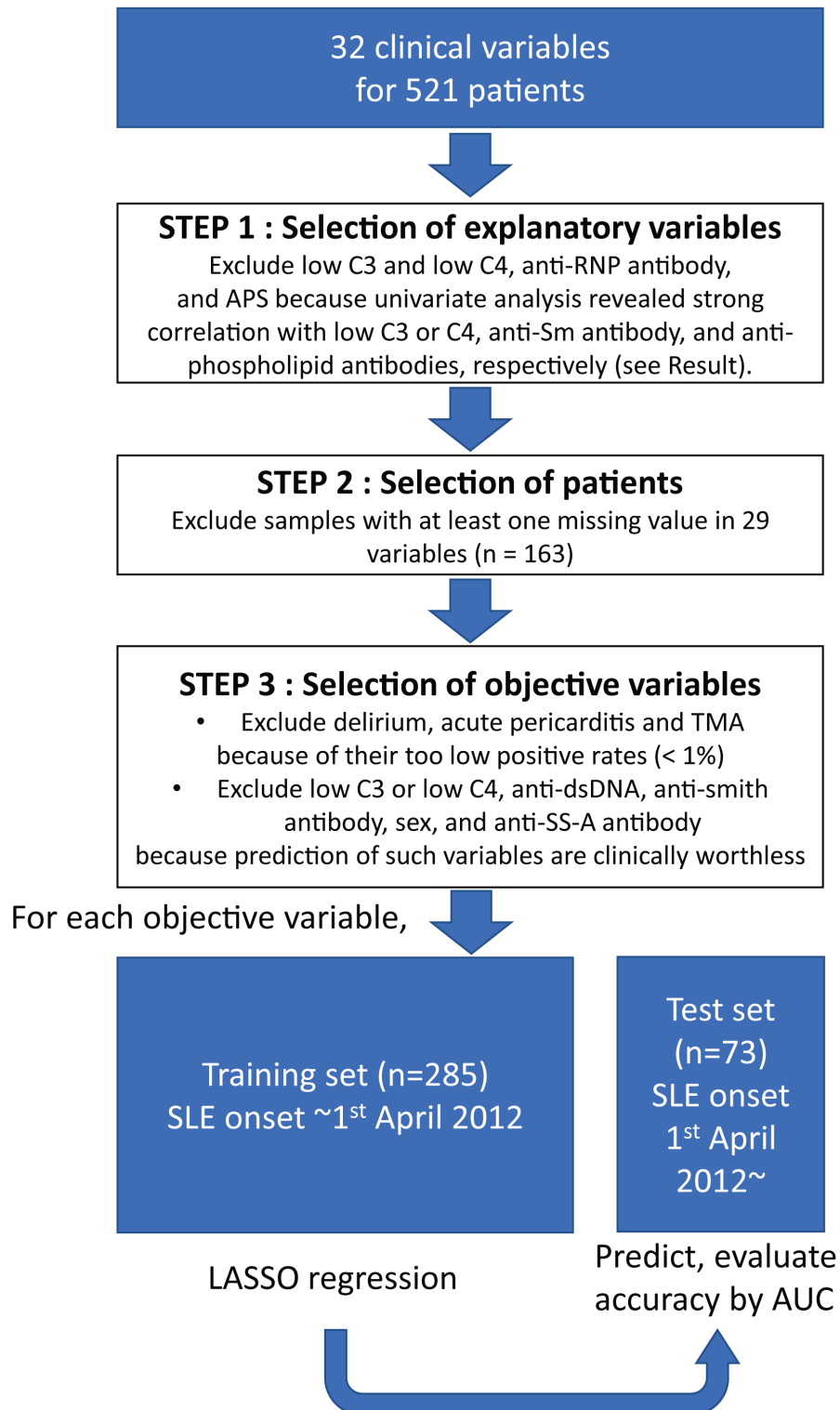
Supplementary Figure 1

Study flow



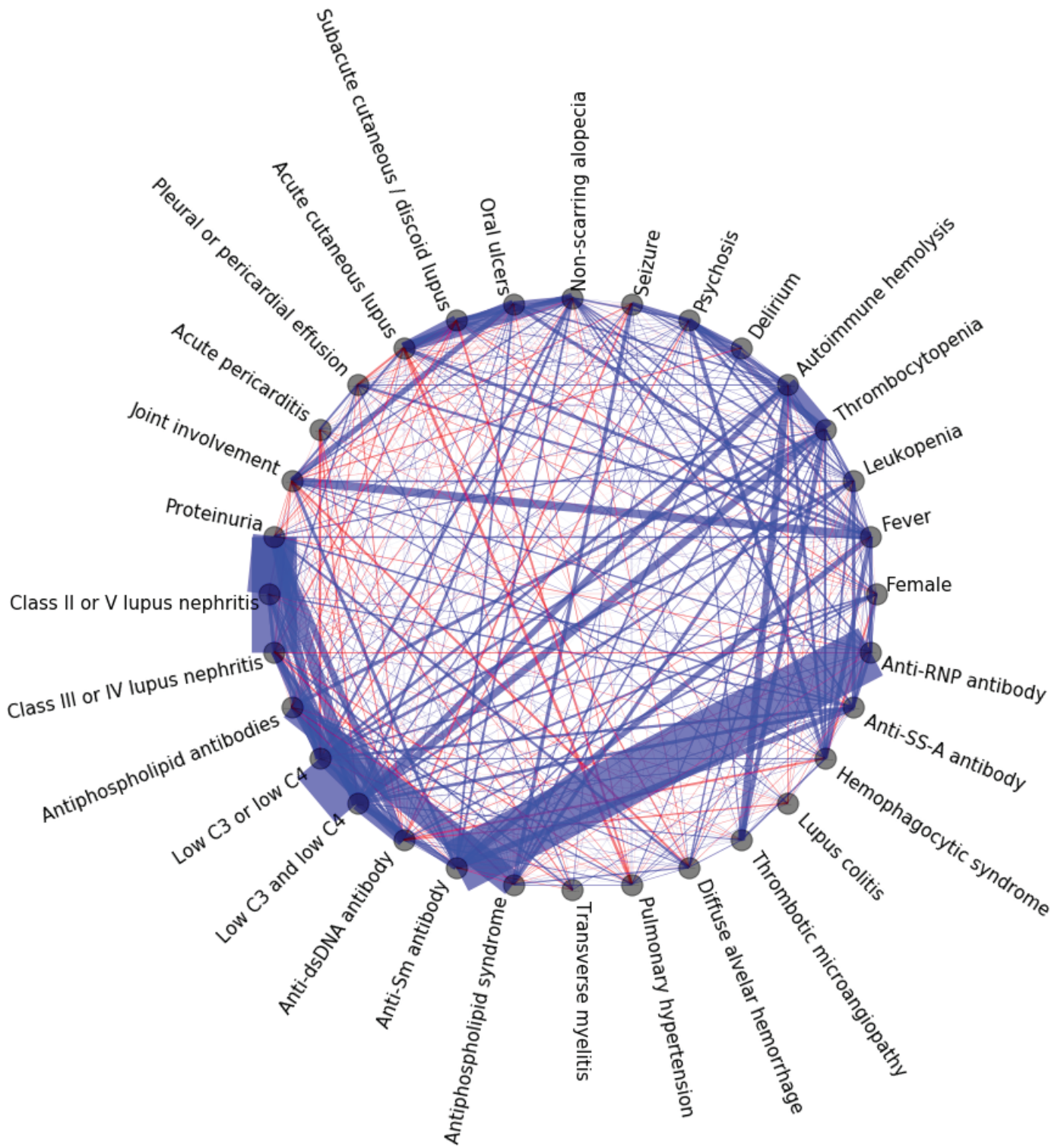
Supplementary Figure 2

Flow of multivariate regression



Supplementary Figure 3

Result of fisher exact test across all items.

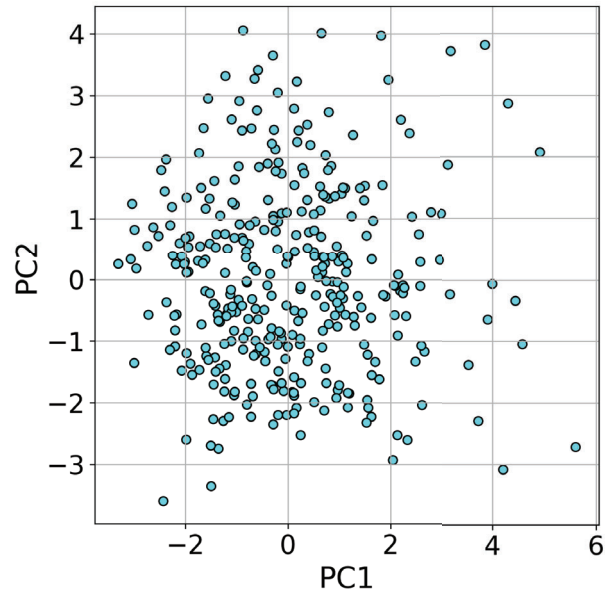


Line width is proportional to $-\log_{10}(p)$ of association between each variables. Blue edge represents positive correlation (Odds ratio (OR) ≥ 1), and orange edge represents negative correlation (OR < 1).

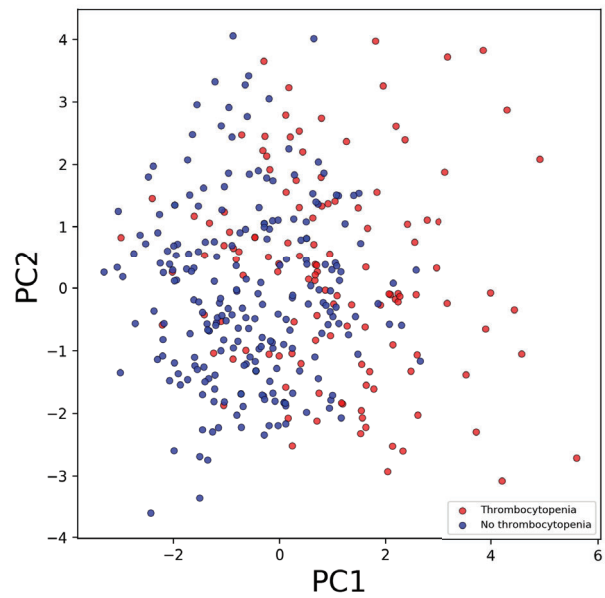
Supplementary Figure 4

Result of principal component analysis.

a



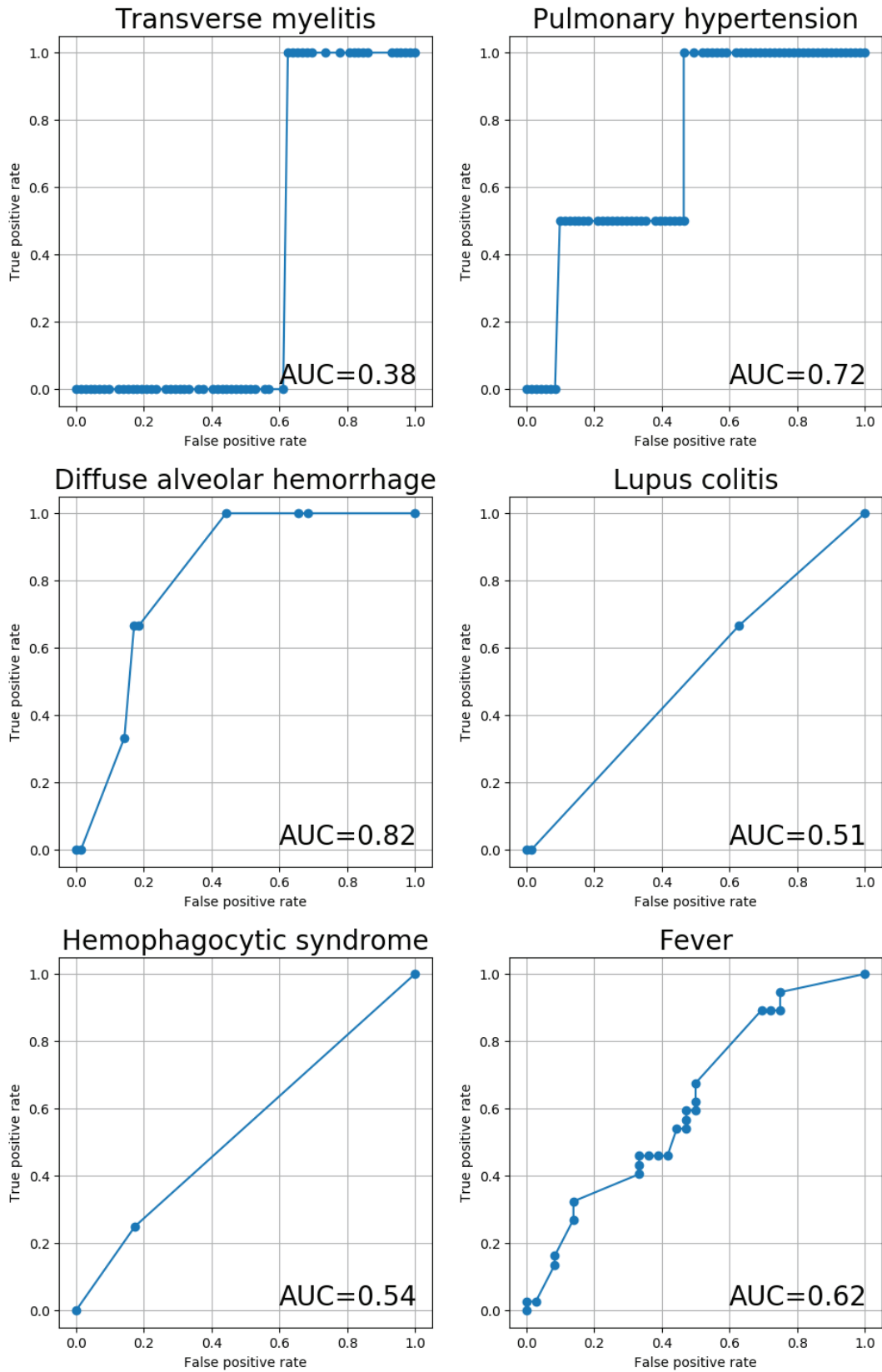
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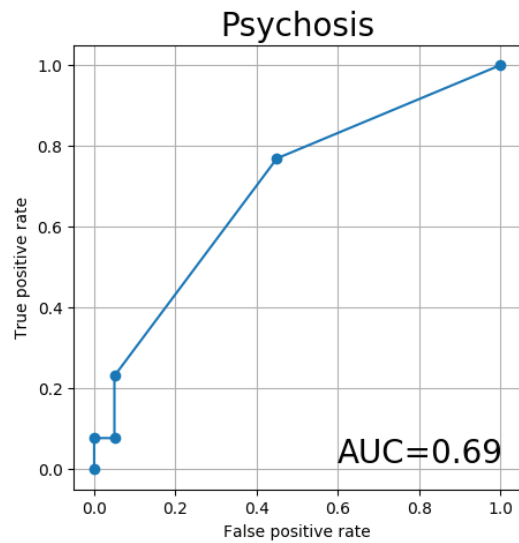
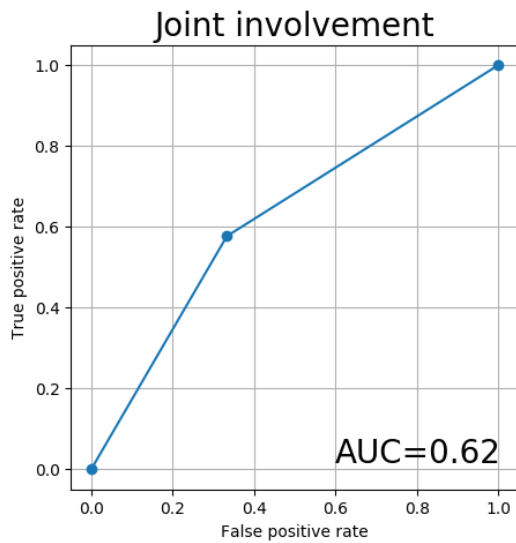
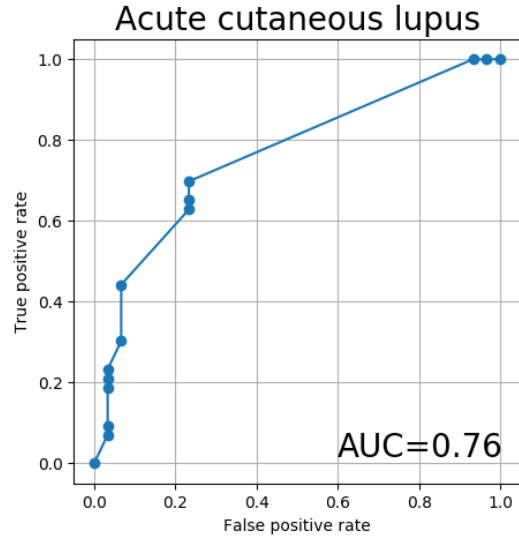
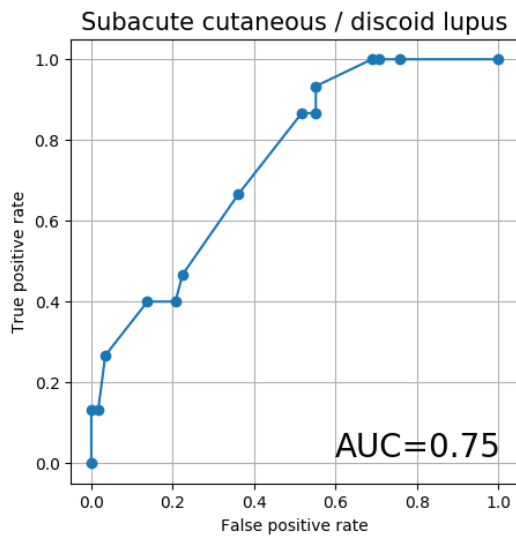
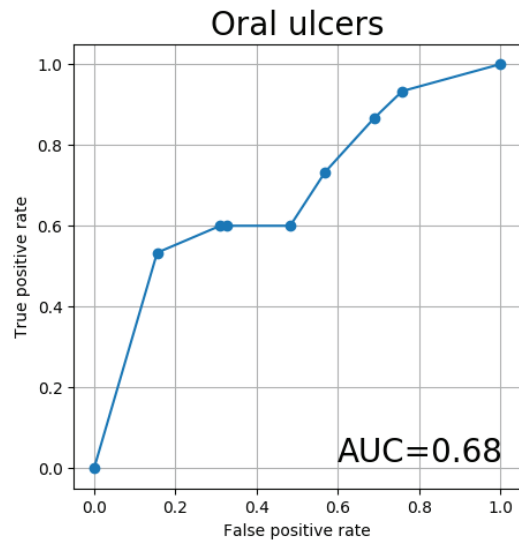
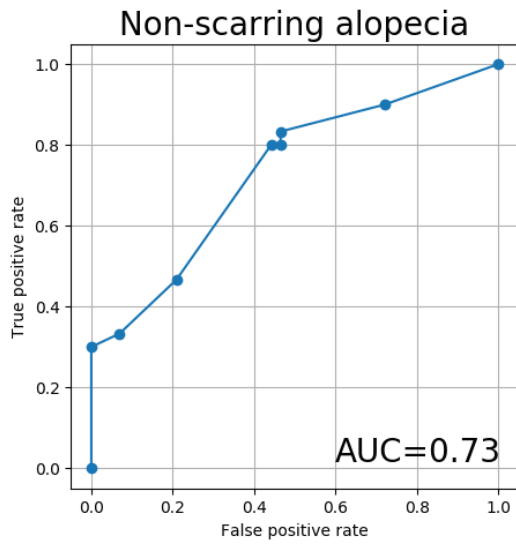


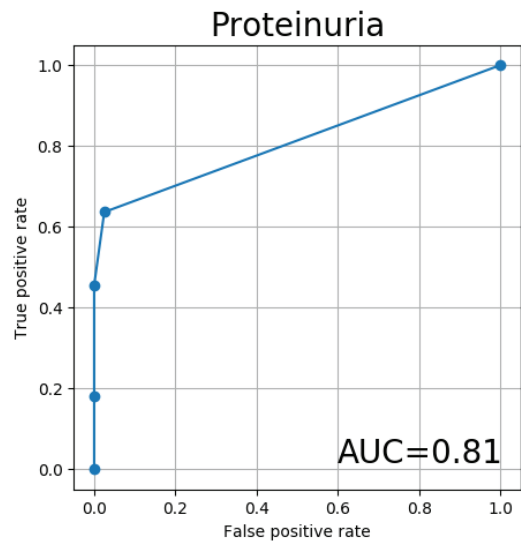
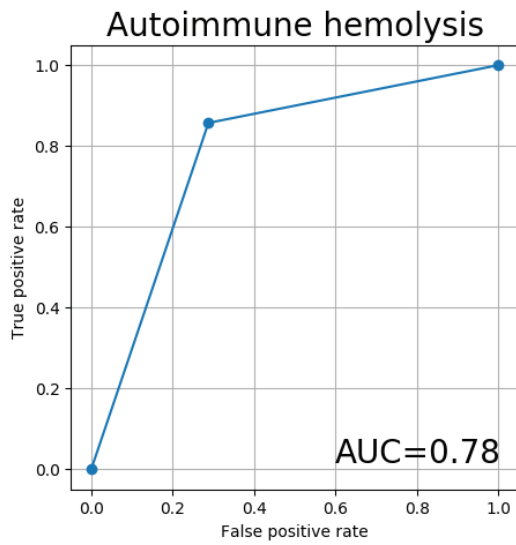
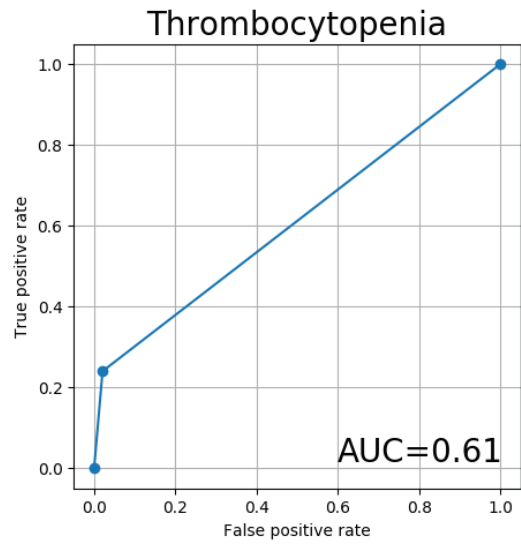
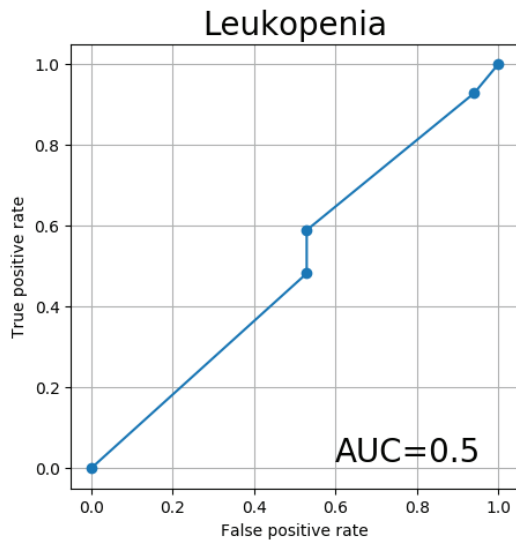
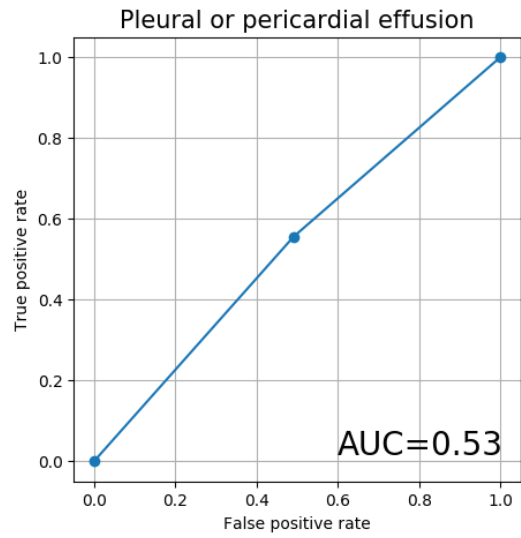
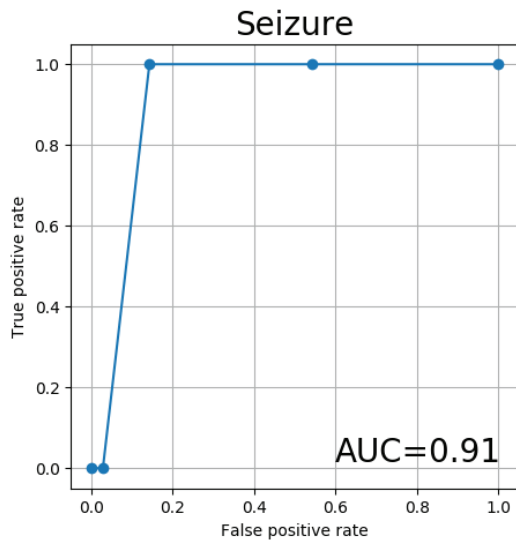
Each dot represents each sample. The matrix of 355 samples with 31 variables were used to conduct PCA.
a. Result of PCA. b. Sample were colored by whether they have thrombocytopenia or not.

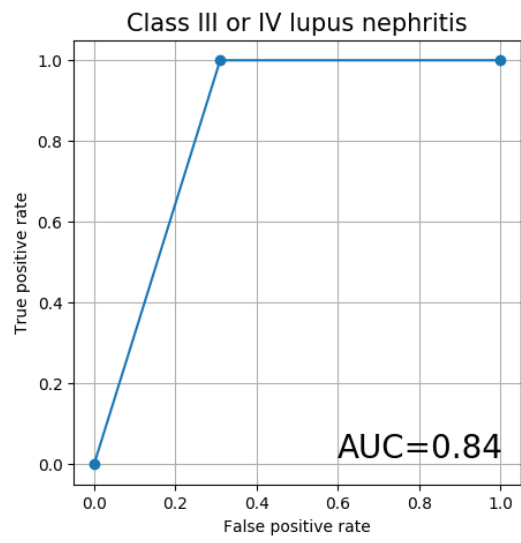
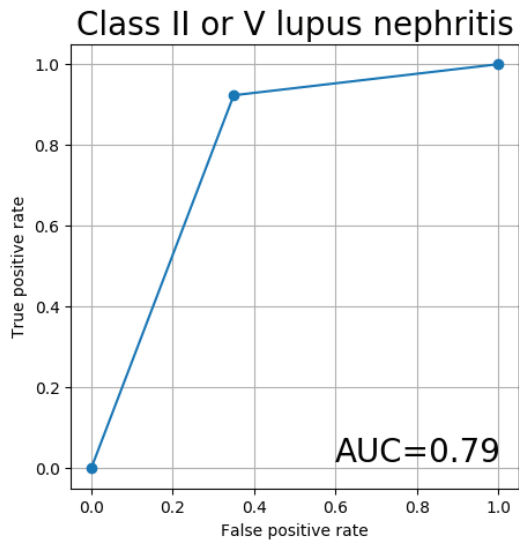
Supplementary Figure 5

Supplementary ROC of objective variables.









Supplementary Table S1. List of 36 items which were surveyed

No.	Item	Category
1	Antinuclear antibodies (ANA)	Antinuclear antibodies (ANA)
2	Fever	
3	Non-scarring alopecia	
4	Oral ulcers	
5	Subacute cutaneous / discoid lupus	
6	Acute cutaneous lupus	
7	Joint involvement	
8	Delirium	
9	Psychosis	
10	Seizure	
11	Pleural or pericardial effusion	
12	Acute pericarditis	
13	Leukopenia	2019 EULAR/ACR classification criteria
14	Thrombocytopenia	
15	Autoimmune hemolysis	
16	Proteinuria	
17	Class II or V lupus nephritis	
18	Class III or IV lupus nephritis	
19	Antiphospholipid antibodies	
20	Low C3 or low C4	
21	Low C3 and low C4	
22	Anti-dsDNA antibody	
23	Anti-Sm antibody	
24	Antiphospholipid syndrome	
25	Transverse myelitis	
26	Pulmonary hypertension	
27	Diffuse alveolar hemorrhage	Complications
28	Thrombotic microangiopathy	
29	Lupus colitis	
30	Hemophagocytic syndrome	
31	Anti-SS-A antibody	
32	Anti-RNP antibody	
33	Sex	
34	Age at surveyed	Others
35	Onset of SLE (year, month)	
36	The last visit before December 2018	

Supplementary Table S2. Missing rate of each clinical manifestation in study population (n=521)

*Abbreviations: TMA: Thrombotic microangiopathy, APS: Antiphospholipid syndrome

Category	Item	Number	Missing rate
		of missing samples	
Sex	Female	0	0.00
Constitutional	Fever	32	0.06
	Leukopenia	13	0.02
Hematological	Thrombocytopenia	15	0.03
	Autoimmune hemolysis	15	0.03
Neuropsychiatric	Delirium	11	0.02
	Psychosis	5	0.01
	Seizure	3	0.01
	Non-scarring alopecia	44	0.08
Mucocutaneous	Oral ulcers	10	0.02
	Subacute cutaneous / discoid lupus	13	0.02
The 2019 EULAR/ACR classification criteria	Acute cutaneous lupus	12	0.02
	Pleural or pericardial effusion	0	0.00
Serosal	Acute pericarditis	1	0.00
	Joint involvement	4	0.01
Musculoskeletal	Proteinuria	5	0.01
	Class II or V lupus nephritis	14	0.03
Renal	Class III or IV lupus nephritis	14	0.03
	Antiphospholipid antibodies	23	0.04
APL antibodies	Low C3 or low C4	11	0.02
Complements	Low C3 and low C4	49	0.09
	Anti-dsDNA antibody	1	0.00
SLE-specific antibodies	Anti-Sm antibody	29	0.06
	APS	0	0.00
Complication	Transverse myelitis	0	0.00
	Pulmonary hypertension	0	0.00
	Diffuse alveolar hemorrhage	0	0.00
	TMA	0	0.00
	Lupus colitis	0	0.00
	Hemophagocytic syndrome	0	0.00
Other antibody	Anti-SS-A antibody	32	0.06
	Anti-RNP antibody	27	0.05

Supplementary Table S3. Basic characteristic and positive rate of each clinical manifestation in study population (n=521)

*Abbreviations: TMA: Thrombotic microangiopathy, APS: Antiphospholipid syndrome

Mean age at survey, years (SD) 48.1 (15.1)

Mean disease duration,years (SD) 16.3 (11.8)

Category	Item	Positive	Negative	Positive ratio	
The 2019 EULAR/ACR classification criteria	Sex	Female	473	48	0.91
	Constitutional	Fever	276	213	0.56
		Leukopenia	380	128	0.75
	Hematological	Thrombocytopenia	183	323	0.36
		Autoimmune hemolysis	72	434	0.14
	Neuropsychiatric	Delirium	3	507	0.01
		Psychosis	63	453	0.12
		Seizure	19	499	0.04
		Non-scarring alopecia	210	267	0.44
	Mucocutaneous	Oral ulcers	151	360	0.30
		Subacute cutaneous / discoid lupus	126	382	0.25
		Acute cutaneous lupus	393	116	0.77
	Serosal	Pleural or pericardial effusion	85	436	0.16
		Acute pericarditis	4	516	0.01
	Musculoskeletal	Joint involvement	434	83	0.84
		Proteinuria	231	285	0.45
	Renal	Class II or V lupus nephritis	89	418	0.18
		Class III or IV lupus nephritis	93	414	0.18
	APL antibodies	Antiphospholipid antibodies	164	334	0.33
		Complements	Low C3 or low C4	441	69
			Low C3 and low C4	349	123
	SLE-specific antibodies	Anti-dsDNA antibody	451	69	0.87
		Anti-Sm antibody	251	241	0.51
	Complication	APS	47	474	0.09
		Transverse myelitis	7	514	0.01
		Pulmonary hypertension	16	505	0.03
		Diffuse alveolar hemorrhage	10	511	0.02
TMA		9	512	0.02	
Lupus colitis		17	504	0.03	
Hemophagocytic syndrome		17	504	0.03	
Other antibody	Anti-SS-A antibody	296	193	0.61	
	Anti-RNP antibody	279	215	0.56	

Supplementary Table S4. Comparison of positive rate with previous studies

Category	Item	Current study				PMID: 31958284				PMID: 32052228				PMID: 32598552			
		+	-	ratio (%)	Total	+	-	ratio (%)	Total	+	-	ratio (%)	Total	+	-	ratio (%)	Total
Sex	Female	473	48	91	522	860	96	90	956	91	9	91	100	329	39	89	368
Constitutional	Fever	276	213	56	522	618	338	64.6	956	47	53	47	100	NA	NA	NA	368
	Leukopenia	380	128	75	522	542	414	56.7	956	77	23	77	100	142	226	39	368
Hematological	Thrombocytopenia	183	323	36	522	232	724	24.3	956	26	74	26	100	47	321	13	368
	Autoimmune hemolysis	72	434	14	522	130	826	13.6	956	14	86	14	100	20	348	5	368
Neuropsychiatric	Delirium	3	507	1	522	NA	NA	NA	956	0	100	0	100	NA	NA	NA	368
	Psychosis	63	453	12	522	73	883	7.6	956	4	96	4	100	10	358	3	368
	Seizure	19	499	4	522	98	858	10.3	956	7	93	7	100	20	348	5	368
Mucocutaneous	Non-scarring alopecia	210	267	44	490	620	336	64.9	956	48	52	48	100	NA	NA	NA	368
	Oral ulcers	151	360	30	495	434	522	45.4	956	27	73	27	100	97	271	26	368
	Subacute cutaneous / discoid lupus	126	382	25	490	41	915	4.3	956	42	58	42	100	35	333	10	368
	The 2019 EULAR/ACR classification criteria	Acute cutaneous lupus	393	116	77	478	660	296	69	956	70	30	70	100	148	220	40
Serosal	Pleural or pericardial effusion	85	436	16	512	300	656	31.4	956	29	71	29	100	122	246	33	368
	Acute pericarditis	4	516	1	509	159	797	16.6	956	0	100	0	100	NA	NA	NA	368
Musculoskeletal	Joint involvement	434	83	84	510	809	147	84.6	956	79	21	79	100	260	108	71	368
	Proteinuria	231	285	45	518	462	494	48.3	956	64	36	64	100	85	283	23	368
Renal	Class II or V lupus nephritis	89	418	18	511	73	883	7.6	956	13	87	13	100	27	341	7	368
	Class III or IV lupus nephritis	93	414	18	517	183	773	19.1	956	17	83	17	100	14	354	4	368
APL antibodies	Antiphospholipid antibodies	164	334	33	519	370	252	59.5	622	17	80	18	97	54	314	15	368
Complements	Low C3 or low C4	441	69	86	522	559	208	72.9	767	40	60	40	100	NA	NA	NA	368
	Low C3 and low C4	349	123	74	521	424	343	55.3	767	40	60	40	100	NA	NA	NA	368
SLE-specific antibodies	Anti-dsDNA antibody	451	69	87	509	646	217	74.9	863	74	26	74	100	183	185	50	368
	Anti-Sm antibody	251	241	51	507	251	266	48.6	517	28	71	28	99	120	248	33	368

Supplementary Table S5. Result of all univariate analyses

Item1	Item2	Odds ratio	Lower confidence interval	Upper confidence interval	p value
Sex (Female)	Antiphospholipid syndrome	0.66	0.26	2.03	0.42
Sex (Female)	Transverse myelitis	Inf	0.14	Inf	1.00
Sex (Female)	Pulmonary hypertension	1.54	0.23	66.15	1.00
Sex (Female)	Diffuse alveolar hemorrhage	0.91	0.12	40.80	1.00
Sex (Female)	Thrombotic microangiopathy	Inf	0.20	Inf	1.00
Sex (Female)	Lupus colitis	1.64	0.24	70.44	1.00
Sex (Female)	Hemophagocytic syndrome	0.22	0.07	0.85	0.01
Sex (Female)	Anti-SS-A antibody	2.40	1.22	4.80	0.01
Sex (Female)	Anti-RNP antibody	1.47	0.76	2.83	0.22
Sex (Female)	Fever	0.87	0.44	1.66	0.76
Sex (Female)	Non-scarring alopecia	1.99	0.98	4.26	0.05
Sex (Female)	Oral ulcers	0.99	0.50	2.06	1.00
Sex (Female)	Subacute cutaneous / discoid lupus	0.57	0.28	1.16	0.10
Sex (Female)	Acute cutaneous lupus	1.66	0.78	3.37	0.14
Sex (Female)	Joint involvement	1.23	0.50	2.73	0.54
Sex (Female)	Delirium	Inf	0.04	Inf	1.00
Sex (Female)	Psychosis	0.97	0.39	2.92	1.00
Sex (Female)	Seizure	0.86	0.19	7.94	0.69
Sex (Female)	Pleural or pericardial effusion	0.62	0.30	1.42	0.22
Sex (Female)	Acute pericarditis	0.30	0.02	16.12	0.32
Sex (Female)	Leukopenia	1.38	0.65	2.79	0.37
Sex (Female)	Thrombocytopenia	0.96	0.49	1.93	1.00
Sex (Female)	Autoimmune hemolysis	1.77	0.61	7.03	0.37
Sex (Female)	Proteinuria	0.95	0.50	1.82	0.88
Sex (Female)	Class II or V lupus nephritis	0.77	0.36	1.80	0.54
Sex (Female)	Class III or IV lupus nephritis	1.10	0.49	2.84	1.00
Sex (Female)	Antiphospholipid antibodies	1.15	0.56	2.47	0.74
Sex (Female)	Low C3 or low C4	2.44	1.09	5.15	0.02
Sex (Female)	Low C3 and low C4	2.36	1.18	4.67	0.01
Sex (Female)	Anti-dsDNA antibody	2.42	1.08	5.11	0.02
Sex (Female)	Anti-Sm antibody	1.40	0.73	2.72	0.35
Antiphospholipid syndrome	Transverse myelitis	0.00	0.00	7.11	1.00
Antiphospholipid syndrome	Pulmonary hypertension	2.41	0.42	9.25	0.17
Antiphospholipid syndrome	Diffuse alveolar hemorrhage	4.53	0.73	20.71	0.05
Antiphospholipid syndrome	Thrombotic microangiopathy	1.27	0.03	9.80	0.58
Antiphospholipid syndrome	Lupus colitis	0.00	0.00	2.45	0.39
Antiphospholipid syndrome	Hemophagocytic syndrome	0.62	0.01	4.19	1.00

Antiphospholipid syndrome	Anti-SS-A antibody	0.98	0.50	1.94	1.00
Antiphospholipid syndrome	Anti-RNP antibody	0.72	0.37	1.37	0.28
Antiphospholipid syndrome	Fever	0.72	0.36	1.41	0.33
Antiphospholipid syndrome	Non-scarring alopecia	0.78	0.39	1.54	0.52
Antiphospholipid syndrome	Oral ulcers	0.71	0.32	1.47	0.40
Antiphospholipid syndrome	Subacute cutaneous / discoid lupus	0.80	0.35	1.71	0.72
Antiphospholipid syndrome	Acute cutaneous lupus	1.27	0.58	3.09	0.59
Antiphospholipid syndrome	Joint involvement	0.93	0.41	2.39	0.84
Antiphospholipid syndrome	Delirium	20.75	1.06	1232.60	0.02
Antiphospholipid syndrome	Psychosis	1.82	0.73	4.10	0.16
Antiphospholipid syndrome	Seizure	6.65	2.10	19.56	7.08E-04
Antiphospholipid syndrome	Pleural or pericardial effusion	0.73	0.25	1.82	0.68
Antiphospholipid syndrome	Acute pericarditis	3.48	0.07	44.30	0.31
Antiphospholipid syndrome	Leukopenia	1.08	0.52	2.43	1.00
Antiphospholipid syndrome	Thrombocytopenia	2.93	1.50	5.83	9.39E-04
Antiphospholipid syndrome	Autoimmune hemolysis	2.35	1.05	4.97	0.02
Antiphospholipid syndrome	Proteinuria	1.20	0.63	2.29	0.64
Antiphospholipid syndrome	Class II or V lupus nephritis	1.16	0.47	2.57	0.69
Antiphospholipid syndrome	Class III or IV lupus nephritis	0.29	0.06	0.93	0.03
Antiphospholipid syndrome	Antiphospholipid antibodies	62.29	15.85	537.41	1.15E-21
Antiphospholipid syndrome	Low C3 or low C4	1.31	0.49	4.41	0.82
Antiphospholipid syndrome	Low C3 and low C4	0.93	0.45	2.06	0.86
Antiphospholipid syndrome	Anti-dsDNA antibody	1.67	0.58	6.61	0.49
Antiphospholipid syndrome	Anti-Sm antibody	0.61	0.31	1.19	0.16
Transverse myelitis	Pulmonary hypertension	0.00	0.00	23.48	1.00
Transverse myelitis	Diffuse alveolar hemorrhage	0.00	0.00	40.09	1.00
Transverse myelitis	Thrombotic microangiopathy	0.00	0.00	45.28	1.00
Transverse myelitis	Lupus colitis	0.00	0.00	21.96	1.00
Transverse myelitis	Hemophagocytic syndrome	0.00	0.00	21.96	1.00
Transverse myelitis	Anti-SS-A antibody	3.96	0.48	183.51	0.25
Transverse myelitis	Anti-RNP antibody	1.03	0.17	7.09	1.00
Transverse myelitis	Fever	1.03	0.17	7.10	1.00
Transverse myelitis	Non-scarring alopecia	0.95	0.14	5.70	1.00
Transverse myelitis	Oral ulcers	0.95	0.09	5.90	1.00
Transverse myelitis	Subacute cutaneous / discoid lupus	1.22	0.11	7.54	0.69
Transverse myelitis	Acute cutaneous lupus	0.39	0.06	2.69	0.20
Transverse myelitis	Joint involvement	0.25	0.04	1.73	0.09
Transverse myelitis	Delirium	0.00	0.00	193.33	1.00
Transverse myelitis	Psychosis	1.20	0.03	10.16	0.60
Transverse myelitis	Seizure	4.54	0.09	40.60	0.23

Transverse myelitis	Pleural or pericardial effusion	3.94	0.57	23.74	0.09
Transverse myelitis	Acute pericarditis	0.00	0.00	127.35	1.00
Transverse myelitis	Leukopenia	2.04	0.24	94.41	0.69
Transverse myelitis	Thrombocytopenia	0.70	0.07	4.35	1.00
Transverse myelitis	Autoimmune hemolysis	1.00	0.02	8.47	1.00
Transverse myelitis	Proteinuria	1.65	0.28	11.41	0.71
Transverse myelitis	Class II or V lupus nephritis	0.00	0.00	3.27	0.61
Transverse myelitis	Class III or IV lupus nephritis	6.13	1.02	42.55	0.02
Transverse myelitis	Antiphospholipid antibodies	0.00	0.00	1.40	0.10
Transverse myelitis	Low C3 or low C4	0.94	0.11	43.77	1.00
Transverse myelitis	Low C3 and low C4	1.77	0.20	84.52	1.00
Transverse myelitis	Anti-dsDNA antibody	Inf	0.22	Inf	0.60
Transverse myelitis	Anti-Sm antibody	0.38	0.04	2.35	0.28
Pulmonary hypertension	Diffuse alveolar hemorrhage	3.66	0.08	29.60	0.27
Pulmonary hypertension	Thrombotic microangiopathy	0.00	0.00	17.22	1.00
Pulmonary hypertension	Lupus colitis	2.03	0.05	14.93	0.42
Pulmonary hypertension	Hemophagocytic syndrome	0.00	0.00	8.22	1.00
Pulmonary hypertension	Anti-SS-A antibody	1.99	0.59	8.61	0.30
Pulmonary hypertension	Anti-RNP antibody	2.37	0.70	10.22	0.20
Pulmonary hypertension	Fever	0.57	0.16	1.91	0.41
Pulmonary hypertension	Non-scarring alopecia	0.70	0.18	2.37	0.59
Pulmonary hypertension	Oral ulcers	0.33	0.04	1.47	0.17
Pulmonary hypertension	Subacute cutaneous / discoid lupus	0.00	0.00	0.77	0.02
Pulmonary hypertension	Acute cutaneous lupus	0.22	0.07	0.67	3.33E-03
Pulmonary hypertension	Joint involvement	0.56	0.16	2.45	0.30
Pulmonary hypertension	Delirium	0.00	0.00	78.04	1.00
Pulmonary hypertension	Psychosis	0.47	0.01	3.17	0.71
Pulmonary hypertension	Seizure	1.79	0.04	12.96	0.45
Pulmonary hypertension	Pleural or pericardial effusion	1.19	0.21	4.47	0.73
Pulmonary hypertension	Acute pericarditis	0.00	0.00	50.41	1.00
Pulmonary hypertension	Leukopenia	0.73	0.23	2.75	0.56
Pulmonary hypertension	Thrombocytopenia	2.33	0.76	7.50	0.11
Pulmonary hypertension	Autoimmune hemolysis	0.93	0.10	4.22	1.00
Pulmonary hypertension	Proteinuria	1.61	0.52	5.17	0.45
Pulmonary hypertension	Class II or V lupus nephritis	1.29	0.23	5.02	0.72
Pulmonary hypertension	Class III or IV lupus nephritis	0.00	0.00	1.33	0.08
Pulmonary hypertension	Antiphospholipid antibodies	2.71	0.88	8.72	0.06
Pulmonary hypertension	Low C3 or low C4	0.62	0.16	3.49	0.44
Pulmonary hypertension	Low C3 and low C4	0.97	0.28	4.25	1.00
Pulmonary hypertension	Anti-dsDNA antibody	Inf	0.59	Inf	0.15
Pulmonary hypertension	Anti-Sm antibody	1.24	0.40	4.00	0.80

Diffuse alveolar hemorrhage	Thrombotic microangiopathy	6.92	0.14	62.26	0.16
Diffuse alveolar hemorrhage	Lupus colitis	0.00	0.00	14.17	1.00
Diffuse alveolar hemorrhage	Hemophagocytic syndrome	0.00	0.00	14.17	1.00
Diffuse alveolar hemorrhage	Anti-SS-A antibody	0.52	0.10	2.43	0.33
Diffuse alveolar hemorrhage	Anti-RNP antibody	1.16	0.27	5.66	1.00
Diffuse alveolar hemorrhage	Fever	3.14	0.62	30.69	0.20
Diffuse alveolar hemorrhage	Non-scarring alopecia	0.31	0.03	1.59	0.20
Diffuse alveolar hemorrhage	Oral ulcers	0.59	0.06	3.01	0.73
Diffuse alveolar hemorrhage	Subacute cutaneous / discoid lupus	0.33	0.01	2.44	0.46
Diffuse alveolar hemorrhage	Acute cutaneous lupus	0.29	0.06	1.27	0.05
Diffuse alveolar hemorrhage	Joint involvement	0.18	0.04	0.81	0.01
Diffuse alveolar hemorrhage	Delirium	0.00	0.00	130.04	1.00
Diffuse alveolar hemorrhage	Psychosis	0.80	0.02	5.92	1.00
Diffuse alveolar hemorrhage	Seizure	3.01	0.07	23.93	0.31
Diffuse alveolar hemorrhage	Pleural or pericardial effusion	1.29	0.13	6.62	0.67
Diffuse alveolar hemorrhage	Acute pericarditis	0.00	0.00	84.85	1.00
Diffuse alveolar hemorrhage	Leukopenia	0.50	0.12	2.44	0.28
Diffuse alveolar hemorrhage	Thrombocytopenia	4.23	0.95	25.66	0.04
Diffuse alveolar hemorrhage	Autoimmune hemolysis	4.18	0.84	18.15	0.04
Diffuse alveolar hemorrhage	Proteinuria	11.47	1.57	505.18	0.01
Diffuse alveolar hemorrhage	Class II or V lupus nephritis	2.04	0.33	9.18	0.39
Diffuse alveolar hemorrhage	Class III or IV lupus nephritis	1.94	0.32	8.68	0.40
Diffuse alveolar hemorrhage	Antiphospholipid antibodies	3.13	0.73	15.27	0.09
Diffuse alveolar hemorrhage	Low C3 or low C4	1.42	0.19	62.98	1.00
Diffuse alveolar hemorrhage	Low C3 and low C4	3.22	0.44	142.61	0.47
Diffuse alveolar hemorrhage	Anti-dsDNA antibody	Inf	0.34	Inf	0.37
Diffuse alveolar hemorrhage	Anti-Sm antibody	0.63	0.13	2.72	0.54
Thrombotic microangiopathy	Lupus colitis	0.00	0.00	16.08	1.00
Thrombotic microangiopathy	Hemophagocytic syndrome	9.35	0.88	55.21	0.03
Thrombotic microangiopathy	Anti-SS-A antibody	2.31	0.43	23.02	0.49
Thrombotic microangiopathy	Anti-RNP antibody	0.96	0.20	4.91	1.00
Thrombotic microangiopathy	Fever	2.34	0.41	23.94	0.48
Thrombotic microangiopathy	Non-scarring alopecia	2.14	0.41	13.96	0.31
Thrombotic microangiopathy	Oral ulcers	1.20	0.19	5.69	0.73
Thrombotic microangiopathy	Subacute cutaneous / discoid lupus	1.01	0.10	5.75	1.00
Thrombotic microangiopathy	Acute cutaneous lupus	0.88	0.16	9.07	1.00
Thrombotic microangiopathy	Joint involvement	1.54	0.20	69.14	1.00
Thrombotic microangiopathy	Delirium	0.00	0.00	166.42	1.00
Thrombotic microangiopathy	Psychosis	3.71	0.59	17.92	0.09
Thrombotic microangiopathy	Seizure	0.00	0.00	14.12	1.00

Thrombotic microangiopathy	Pleural or pericardial effusion	0.64	0.01	4.86	1.00
Thrombotic microangiopathy	Acute pericarditis	0.00	0.00	95.70	1.00
Thrombotic microangiopathy	Leukopenia	2.73	0.36	122.07	0.46
Thrombotic microangiopathy	Thrombocytopenia	Inf	3.60	Inf	9.31E-05
Thrombotic microangiopathy	Autoimmune hemolysis	53.45	6.97	2372.99	9.46E-07
Thrombotic microangiopathy	Proteinuria	1.55	0.33	7.92	0.52
Thrombotic microangiopathy	Class II or V lupus nephritis	0.00	0.00	2.38	0.37
Thrombotic microangiopathy	Class III or IV lupus nephritis	1.28	0.13	6.86	0.67
Thrombotic microangiopathy	Antiphospholipid antibodies	0.29	0.01	2.27	0.28
Thrombotic microangiopathy	Low C3 or low C4	Inf	0.31	Inf	0.62
Thrombotic microangiopathy	Low C3 and low C4	Inf	0.61	Inf	0.12
Thrombotic microangiopathy	Anti-dsDNA antibody	Inf	0.30	Inf	0.61
Thrombotic microangiopathy	Anti-Sm antibody	1.61	0.31	10.49	0.72
Lupus colitis	Hemophagocytic syndrome	0.00	0.00	7.67	1.00
Lupus colitis	Anti-SS-A antibody	1.59	0.51	5.85	0.46
Lupus colitis	Anti-RNP antibody	0.59	0.18	1.81	0.32
Lupus colitis	Fever	0.99	0.32	3.19	1.00
Lupus colitis	Non-scarring alopecia	0.76	0.22	2.34	0.80
Lupus colitis	Oral ulcers	0.73	0.17	2.40	0.79
Lupus colitis	Subacute cutaneous / discoid lupus	0.93	0.22	3.09	1.00
Lupus colitis	Acute cutaneous lupus	0.53	0.17	1.78	0.24
Lupus colitis	Joint involvement	1.45	0.33	13.30	1.00
Lupus colitis	Delirium	0.00	0.00	73.08	1.00
Lupus colitis	Psychosis	0.44	0.01	2.94	0.71
Lupus colitis	Seizure	0.00	0.00	6.72	1.00
Lupus colitis	Pleural or pericardial effusion	1.10	0.20	4.08	0.75
Lupus colitis	Acute pericarditis	10.28	0.19	136.09	0.12
Lupus colitis	Leukopenia	0.61	0.20	2.04	0.39
Lupus colitis	Thrombocytopenia	0.53	0.12	1.76	0.32
Lupus colitis	Autoimmune hemolysis	0.00	0.00	1.44	0.15
Lupus colitis	Proteinuria	1.40	0.47	4.25	0.62
Lupus colitis	Class II or V lupus nephritis	1.59	0.37	5.41	0.50
Lupus colitis	Class III or IV lupus nephritis	0.29	0.01	1.93	0.33
Lupus colitis	Antiphospholipid antibodies	0.62	0.14	2.04	0.60
Lupus colitis	Low C3 or low C4	0.72	0.19	4.02	0.71
Lupus colitis	Low C3 and low C4	0.84	0.27	3.11	0.78
Lupus colitis	Anti-dsDNA antibody	0.35	0.11	1.31	0.06
Lupus colitis	Anti-Sm antibody	0.74	0.23	2.27	0.62
Hemophagocytic syndrome	Anti-SS-A antibody	1.09	0.35	3.71	1.00
Hemophagocytic syndrome	Anti-RNP antibody	1.43	0.48	4.79	0.62
Hemophagocytic syndrome	Fever	Inf	3.11	Inf	1.15E-04

Hemophagocytic syndrome	Non-scarring alopecia	1.85	0.62	5.85	0.22
Hemophagocytic syndrome	Oral ulcers	1.31	0.39	3.96	0.60
Hemophagocytic syndrome	Subacute cutaneous / discoid lupus	0.64	0.12	2.35	0.58
Hemophagocytic syndrome	Acute cutaneous lupus	0.96	0.29	4.11	1.00
Hemophagocytic syndrome	Joint involvement	Inf	0.80	Inf	0.09
Hemophagocytic syndrome	Delirium	0.00	0.00	73.08	1.00
Hemophagocytic syndrome	Psychosis	7.13	2.29	21.79	3.20E-04
Hemophagocytic syndrome	Seizure	1.67	0.04	12.03	0.48
Hemophagocytic syndrome	Pleural or pericardial effusion	2.20	0.59	6.95	0.17
Hemophagocytic syndrome	Acute pericarditis	0.00	0.00	47.17	1.00
Hemophagocytic syndrome	Leukopenia	Inf	1.33	Inf	0.02
Hemophagocytic syndrome	Thrombocytopenia	4.06	1.27	15.14	0.01
Hemophagocytic syndrome	Autoimmune hemolysis	5.06	1.54	15.88	3.52E-03
Hemophagocytic syndrome	Proteinuria	1.10	0.36	3.27	1.00
Hemophagocytic syndrome	Class II or V lupus nephritis	0.29	0.01	1.89	0.33
Hemophagocytic syndrome	Class III or IV lupus nephritis	0.95	0.17	3.51	1.00
Hemophagocytic syndrome	Antiphospholipid antibodies	0.84	0.23	2.63	1.00
Hemophagocytic syndrome	Low C3 or low C4	Inf	0.65	Inf	0.15
Hemophagocytic syndrome	Low C3 and low C4	2.52	0.57	23.21	0.26
Hemophagocytic syndrome	Anti-dsDNA antibody	0.26	0.09	0.90	0.02
Hemophagocytic syndrome	Anti-Sm antibody	1.62	0.52	5.53	0.45
Anti-SS-A antibody	Anti-RNP antibody	1.76	1.19	2.61	3.18E-03
Anti-SS-A antibody	Fever	1.20	0.81	1.78	0.39
Anti-SS-A antibody	Non-scarring alopecia	1.58	1.06	2.38	0.02
Anti-SS-A antibody	Oral ulcers	1.16	0.76	1.79	0.54
Anti-SS-A antibody	Subacute cutaneous / discoid lupus	0.96	0.62	1.50	0.91
Anti-SS-A antibody	Acute cutaneous lupus	1.30	0.83	2.04	0.23
Anti-SS-A antibody	Joint involvement	1.25	0.75	2.10	0.38
Anti-SS-A antibody	Delirium	Inf	0.12	Inf	0.52
Anti-SS-A antibody	Psychosis	1.05	0.58	1.95	1.00
Anti-SS-A antibody	Seizure	0.93	0.31	2.92	1.00
Anti-SS-A antibody	Pleural or pericardial effusion	1.06	0.63	1.80	0.90
Anti-SS-A antibody	Acute pericarditis	0.22	0.00	2.71	0.31
Anti-SS-A antibody	Leukopenia	1.99	1.28	3.09	1.67E-03
Anti-SS-A antibody	Thrombocytopenia	1.17	0.78	1.75	0.49
Anti-SS-A antibody	Autoimmune hemolysis	1.00	0.57	1.75	1.00
Anti-SS-A antibody	Proteinuria	1.56	1.06	2.30	0.02
Anti-SS-A antibody	Class II or V lupus nephritis	1.71	0.99	3.04	0.04
Anti-SS-A antibody	Class III or IV lupus nephritis	1.24	0.75	2.08	0.40
Anti-SS-A antibody	Antiphospholipid antibodies	1.00	0.66	1.51	1.00

Anti-SS-A antibody	Low C3 or low C4	2.18	1.23	3.87	0.01
Anti-SS-A antibody	Low C3 and low C4	2.01	1.28	3.17	1.81E-03
Anti-SS-A antibody	Anti-dsDNAantibody	1.42	0.81	2.47	0.22
Anti-SS-A antibody	Anti-Sm antibody	2.35	1.58	3.51	1.21E-05
Anti-RNP antibody	Fever	1.89	1.28	2.79	9.49E-04
Anti-RNP antibody	Non-scarring alopecia	1.55	1.05	2.32	0.03
Anti-RNP antibody	Oral ulcers	1.06	0.70	1.61	0.84
Anti-RNP antibody	Subacute cutaneous / discoid lupus	1.29	0.83	2.02	0.24
Anti-RNP antibody	Acute cutaneous lupus	1.27	0.81	1.99	0.32
Anti-RNP antibody	Joint involvement	1.63	0.98	2.72	0.05
Anti-RNP antibody	Delirium	0.39	0.01	7.53	0.58
Anti-RNP antibody	Psychosis	1.05	0.59	1.89	0.89
Anti-RNP antibody	Seizure	1.06	0.38	3.11	1.00
Anti-RNP antibody	Pleural or pericardial effusion	0.96	0.58	1.62	0.90
Anti-RNP antibody	Acute pericarditis	2.33	0.19	123.05	0.64
Anti-RNP antibody	Leukopenia	1.32	0.85	2.04	0.20
Anti-RNP antibody	Thrombocytopenia	1.10	0.74	1.64	0.63
Anti-RNP antibody	Autoimmune hemolysis	0.80	0.46	1.38	0.43
Anti-RNP antibody	Proteinuria	0.77	0.53	1.11	0.17
Anti-RNP antibody	Class II or V lupus nephritis	1.32	0.79	2.22	0.28
Anti-RNP antibody	Class III or IV lupus nephritis	0.65	0.40	1.05	0.07
Anti-RNP antibody	Antiphospholipid antibodies	1.06	0.71	1.59	0.84
Anti-RNP antibody	Low C3 or low C4	0.87	0.49	1.52	0.69
Anti-RNP antibody	Low C3 and low C4	1.35	0.86	2.10	0.19
Anti-RNP antibody	Anti-dsDNAantibody	0.72	0.41	1.25	0.24
Anti-RNP antibody	Anti-Sm antibody	20.15	12.20	34.15	1.38E-44
Fever	Non-scarring alopecia	1.53	1.04	2.27	0.03
Fever	Oral ulcers	2.01	1.31	3.12	8.48E-04
Fever	Subacute cutaneous / discoid lupus	1.21	0.78	1.88	0.40
Fever	Acute cutaneous lupus	2.03	1.29	3.20	1.46E-03
Fever	Joint involvement	4.01	2.30	7.19	8.87E-08
Fever	Delirium	0.39	0.01	7.58	0.59
Fever	Psychosis	2.46	1.29	4.92	4.45E-03
Fever	Seizure	1.07	0.38	3.11	1.00
Fever	Pleural or pericardial effusion	2.10	1.22	3.72	0.01
Fever	Acute pericarditis	1.55	0.08	91.67	1.00
Fever	Leukopenia	1.25	0.81	1.93	0.29
Fever	Thrombocytopenia	1.50	1.01	2.24	0.04
Fever	Autoimmune hemolysis	1.08	0.62	1.91	0.79
Fever	Proteinuria	1.47	1.00	2.15	0.04

Fever	Class II or V lupus nephritis	1.16	0.70	1.96	0.62
Fever	Class III or IV lupus nephritis	1.17	0.71	1.94	0.55
Fever	Antiphospholipid antibodies	1.05	0.70	1.57	0.84
Fever	Low C3 or low C4	1.20	0.69	2.08	0.51
Fever	Low C3 and low C4	1.16	0.74	1.80	0.52
Fever	Anti-dsDNA antibody	0.71	0.40	1.25	0.23
Fever	Anti-Sm antibody	2.28	1.54	3.38	1.60E-05
Non-scarring alopecia	Oral ulcers	2.18	1.42	3.35	2.01E-04
Non-scarring alopecia	Subacute cutaneous / discoid lupus	2.29	1.46	3.61	1.49E-04
Non-scarring alopecia	Acute cutaneous lupus	4.19	2.47	7.35	3.70E-09
Non-scarring alopecia	Joint involvement	1.71	1.00	2.97	0.05
Non-scarring alopecia	Delirium	0.64	0.01	12.39	1.00
Non-scarring alopecia	Psychosis	1.95	1.08	3.57	0.02
Non-scarring alopecia	Seizure	1.28	0.44	3.71	0.64
Non-scarring alopecia	Pleural or pericardial effusion	0.71	0.42	1.21	0.21
Non-scarring alopecia	Acute pericarditis	0.42	0.01	5.30	0.63
Non-scarring alopecia	Leukopenia	1.66	1.06	2.64	0.02
Non-scarring alopecia	Thrombocytopenia	1.04	0.70	1.55	0.85
Non-scarring alopecia	Autoimmune hemolysis	1.29	0.73	2.28	0.34
Non-scarring alopecia	Proteinuria	1.03	0.70	1.51	0.93
Non-scarring alopecia	Class II or V lupus nephritis	1.35	0.81	2.24	0.22
Non-scarring alopecia	Class III or IV lupus nephritis	0.88	0.52	1.47	0.62
Non-scarring alopecia	Antiphospholipid antibodies	0.75	0.50	1.14	0.16
Non-scarring alopecia	Low C3 or low C4	2.28	1.25	4.32	4.56E-03
Non-scarring alopecia	Low C3 and low C4	1.93	1.21	3.10	4.48E-03
Non-scarring alopecia	Anti-dsDNA antibody	1.26	0.71	2.26	0.42
Non-scarring alopecia	Anti-Sm antibody	1.62	1.10	2.41	0.01
Oral ulcers	Subacute cutaneous / discoid lupus	1.89	1.20	2.96	4.31E-03
Oral ulcers	Acute cutaneous lupus	4.25	2.27	8.56	2.31E-07
Oral ulcers	Joint involvement	4.07	1.96	9.53	1.96E-05
Oral ulcers	Delirium	1.18	0.02	22.81	1.00
Oral ulcers	Psychosis	0.97	0.51	1.78	1.00
Oral ulcers	Seizure	0.63	0.15	2.01	0.61
Oral ulcers	Pleural or pericardial effusion	1.24	0.72	2.08	0.43
Oral ulcers	Acute pericarditis	0.79	0.01	9.95	1.00
Oral ulcers	Leukopenia	1.28	0.80	2.10	0.31
Oral ulcers	Thrombocytopenia	1.18	0.78	1.79	0.41
Oral ulcers	Autoimmune hemolysis	1.84	1.05	3.19	0.02
Oral ulcers	Proteinuria	0.82	0.55	1.24	0.38
Oral ulcers	Class II or V lupus nephritis	0.87	0.49	1.50	0.70

Oral ulcers	Class III or IV lupus nephritis	0.85	0.48	1.44	0.61
Oral ulcers	Antiphospholipid antibodies	0.79	0.50	1.22	0.29
Oral ulcers	Low C3 or low C4	1.37	0.74	2.68	0.32
Oral ulcers	Low C3 and low C4	1.47	0.89	2.50	0.13
Oral ulcers	Anti-dsDNA antibody	1.38	0.74	2.69	0.32
Oral ulcers	Anti-Sm antibody	1.63	1.08	2.49	0.02
Subacute cutaneous / discoid lupus	Acute cutaneous lupus	7.86	3.36	22.52	2.55E-09
Subacute cutaneous / discoid lupus	Joint involvement	0.80	0.46	1.43	0.40
Subacute cutaneous / discoid lupus	Delirium	1.54	0.03	29.82	0.57
Subacute cutaneous / discoid lupus	Psychosis	1.28	0.66	2.37	0.43
Subacute cutaneous / discoid lupus	Seizure	1.09	0.30	3.28	0.79
Subacute cutaneous / discoid lupus	Pleural or pericardial effusion	0.75	0.39	1.36	0.40
Subacute cutaneous / discoid lupus	Acute pericarditis	0.00	0.00	4.59	0.58
Subacute cutaneous / discoid lupus	Leukopenia	1.39	0.83	2.38	0.23
Subacute cutaneous / discoid lupus	Thrombocytopenia	1.11	0.71	1.73	0.67
Subacute cutaneous / discoid lupus	Autoimmune hemolysis	1.41	0.76	2.54	0.23
Subacute cutaneous / discoid lupus	Proteinuria	0.71	0.46	1.10	0.12
Subacute cutaneous / discoid lupus	Class II or V lupus nephritis	1.03	0.58	1.80	0.89
Subacute cutaneous / discoid lupus	Class III or IV lupus nephritis	0.54	0.28	1.01	0.04
Subacute cutaneous / discoid lupus	Antiphospholipid antibodies	0.71	0.44	1.15	0.18
Subacute cutaneous / discoid lupus	Low C3 or low C4	1.42	0.73	2.95	0.36
Subacute cutaneous / discoid lupus	Low C3 and low C4	1.17	0.70	2.00	0.62
Subacute cutaneous / discoid lupus	Anti-dsDNA antibody	0.77	0.42	1.46	0.44
Subacute cutaneous / discoid lupus	Anti-Sm antibody	1.09	0.71	1.69	0.75

Acute cutaneous lupus	Joint involvement	1.99	1.14	3.41	0.01
Acute cutaneous lupus	Delirium	0.60	0.03	35.61	0.55
Acute cutaneous lupus	Psychosis	1.31	0.66	2.81	0.52
Acute cutaneous lupus	Seizure	0.83	0.27	3.00	0.78
Acute cutaneous lupus	Pleural or pericardial effusion	0.51	0.30	0.89	0.01
Acute cutaneous lupus	Acute pericarditis	0.89	0.07	46.96	1.00
Acute cutaneous lupus	Leukopenia	1.37	0.83	2.22	0.22
Acute cutaneous lupus	Thrombocytopenia	0.86	0.55	1.36	0.51
Acute cutaneous lupus	Autoimmune hemolysis	1.51	0.76	3.21	0.28
Acute cutaneous lupus	Proteinuria	1.19	0.77	1.86	0.46
Acute cutaneous lupus	Class II or V lupus nephritis	1.07	0.60	1.98	0.89
Acute cutaneous lupus	Class III or IV lupus nephritis	0.79	0.46	1.39	0.41
Acute cutaneous lupus	Antiphospholipid antibodies	0.68	0.43	1.08	0.08
Acute cutaneous lupus	Low C3 or low C4	1.38	0.73	2.54	0.28
Acute cutaneous lupus	Low C3 and low C4	0.93	0.55	1.57	0.90
Acute cutaneous lupus	Anti-dsDNA antibody	1.15	0.59	2.13	0.64
Acute cutaneous lupus	Anti-Sm antibody	1.18	0.75	1.84	0.45
Joint involvement	Delirium	0.10	0.00	1.88	0.07
Joint involvement	Psychosis	0.90	0.44	2.01	0.72
Joint involvement	Seizure	0.40	0.14	1.32	0.10
Joint involvement	Pleural or pericardial effusion	0.95	0.49	1.93	0.87
Joint involvement	Acute pericarditis	Inf	0.12	Inf	1.00
Joint involvement	Leukopenia	1.73	1.00	2.96	0.04
Joint involvement	Thrombocytopenia	0.80	0.48	1.36	0.44
Joint involvement	Autoimmune hemolysis	1.04	0.51	2.31	1.00
Joint involvement	Proteinuria	0.75	0.46	1.24	0.28
Joint involvement	Class II or V lupus nephritis	0.65	0.36	1.23	0.15
Joint involvement	Class III or IV lupus nephritis	0.60	0.34	1.11	0.09
Joint involvement	Antiphospholipid antibodies	0.94	0.56	1.62	0.90
Joint involvement	Low C3 or low C4	0.78	0.32	1.67	0.60
Joint involvement	Low C3 and low C4	0.75	0.38	1.39	0.39
Joint involvement	Anti-dsDNA antibody	0.56	0.21	1.30	0.21
Joint involvement	Anti-Sm antibody	2.18	1.30	3.70	1.71E-03
Delirium	Psychosis	Inf	3.36	Inf	1.33E-03
Delirium	Seizure	15.06	0.24	302.79	0.10
Delirium	Pleural or pericardial effusion	2.55	0.04	49.46	0.42
Delirium	Acute pericarditis	0.00	0.00	375.20	1.00
Delirium	Leukopenia	Inf	0.14	Inf	0.57
Delirium	Thrombocytopenia	3.61	0.19	214.11	0.29
Delirium	Autoimmune hemolysis	3.11	0.05	60.63	0.36
Delirium	Proteinuria	0.63	0.01	12.20	1.00
Delirium	Class II or V lupus nephritis	0.00	0.00	11.76	1.00

Delirium	Class III or IV lupus nephritis	0.00	0.00	10.53	1.00
Delirium	Antiphospholipid antibodies	4.04	0.21	239.30	0.26
Delirium	Low C3 or low C4	Inf	0.07	Inf	1.00
Delirium	Low C3 and low C4	Inf	0.15	Inf	0.57
Delirium	Anti-dsDNAantibody	Inf	0.06	Inf	1.00
Delirium	Anti-Sm antibody	0.98	0.01	76.83	1.00
Psychosis	Seizure	6.40	2.10	18.89	5.21E-04
Psychosis	Pleural or pericardial effusion	1.40	0.66	2.78	0.36
Psychosis	Acute pericarditis	2.41	0.05	30.52	0.41
Psychosis	Leukopenia	2.17	1.02	5.17	0.04
Psychosis	Thrombocytopenia	3.71	2.06	6.83	3.15E-06
Psychosis	Autoimmune hemolysis	3.53	1.82	6.70	1.25E-04
Psychosis	Proteinuria	1.40	0.79	2.48	0.22
Psychosis	Class II or V lupus nephritis	1.49	0.72	2.93	0.28
Psychosis	Class III or IV lupus nephritis	1.19	0.57	2.37	0.60
Psychosis	Antiphospholipid antibodies	0.96	0.51	1.74	1.00
Psychosis	Low C3 or low C4	1.58	0.64	4.67	0.43
Psychosis	Low C3 and low C4	1.95	0.94	4.46	0.06
Psychosis	Anti-dsDNAantibody	0.54	0.27	1.16	0.08
Psychosis	Anti-Sm antibody	1.47	0.82	2.68	0.21
Seizure	Pleural or pericardial effusion	0.60	0.07	2.60	0.75
Seizure	Acute pericarditis	0.00	0.00	41.50	1.00
Seizure	Leukopenia	1.20	0.37	5.08	1.00
Seizure	Thrombocytopenia	1.79	0.62	5.18	0.22
Seizure	Autoimmune hemolysis	2.91	0.88	8.57	0.04
Seizure	Proteinuria	0.72	0.24	2.03	0.64
Seizure	Class II or V lupus nephritis	0.90	0.16	3.23	1.00
Seizure	Class III or IV lupus nephritis	0.51	0.06	2.21	0.55
Seizure	Antiphospholipid antibodies	2.07	0.71	6.03	0.13
Seizure	Low C3 or low C4	0.39	0.13	1.45	0.08
Seizure	Low C3 and low C4	0.77	0.24	2.90	0.58
Seizure	Anti-dsDNAantibody	0.31	0.11	1.05	0.03
Seizure	Anti-Sm antibody	1.06	0.38	3.02	1.00
Pleural or pericardial effusion	Acute pericarditis	15.97	1.26	843.08	0.01
Pleural or pericardial effusion	Leukopenia	1.18	0.66	2.19	0.59
Pleural or pericardial effusion	Thrombocytopenia	1.25	0.75	2.06	0.39
Pleural or pericardial effusion	Autoimmune hemolysis	1.62	0.82	3.08	0.12
Pleural or pericardial effusion	Proteinuria	1.21	0.74	1.99	0.47
Pleural or pericardial effusion	Class II or V lupus nephritis	0.78	0.36	1.53	0.53
Pleural or pericardial effusion	Class III or IV lupus nephritis	1.83	1.00	3.25	0.04
Pleural or pericardial effusion	Antiphospholipid antibodies	1.31	0.78	2.19	0.31
Pleural or pericardial effusion	Low C3 or low C4	0.65	0.34	1.31	0.22

Pleural or pericardial effusion	Low C3 and low C4	1.07	0.59	2.00	0.89
Pleural or pericardial effusion	Anti-dsDNAantibody	0.60	0.31	1.19	0.11
Pleural or pericardial effusion	Anti-Sm antibody	1.04	0.63	1.70	0.91
Acute pericarditis	Leukopenia	1.01	0.08	53.61	1.00
Acute pericarditis	Thrombocytopenia	1.77	0.13	24.63	0.62
Acute pericarditis	Autoimmune hemolysis	2.02	0.04	25.57	0.46
Acute pericarditis	Proteinuria	0.41	0.01	5.12	0.63
Acute pericarditis	Class II or V lupus nephritis	0.00	0.00	7.13	1.00
Acute pericarditis	Class III or IV lupus nephritis	0.00	0.00	6.85	1.00
Acute pericarditis	Antiphospholipid antibodies	2.06	0.15	28.64	0.60
Acute pericarditis	Low C3 or low C4	0.05	0.00	0.64	0.01
Acute pericarditis	Low C3 and low C4	0.12	0.00	1.46	0.06
Acute pericarditis	Anti-dsDNAantibody	0.15	0.01	2.11	0.09
Acute pericarditis	Anti-Sm antibody	2.89	0.23	152.28	0.62
Leukopenia	Thrombocytopenia	1.76	1.11	2.84	0.01
Leukopenia	Autoimmune hemolysis	1.80	0.91	3.81	0.08
Leukopenia	Proteinuria	0.99	0.65	1.53	1.00
Leukopenia	Class II or V lupus nephritis	0.97	0.56	1.74	0.89
Leukopenia	Class III or IV lupus nephritis	0.81	0.47	1.42	0.42
Leukopenia	Antiphospholipid antibodies	1.03	0.65	1.64	1.00
Leukopenia	Low C3 or low C4	2.38	1.34	4.19	2.35E-03
Leukopenia	Low C3 and low C4	1.93	1.20	3.11	0.01
Leukopenia	Anti-dsDNAantibody	0.96	0.50	1.78	1.00
Leukopenia	Anti-Sm antibody	1.55	1.00	2.40	0.05
Thrombocytopenia	Autoimmune hemolysis	8.84	4.72	17.52	6.42E-15
Thrombocytopenia	Proteinuria	1.42	0.97	2.09	0.06
Thrombocytopenia	Class II or V lupus nephritis	0.95	0.56	1.58	0.90
Thrombocytopenia	Class III or IV lupus nephritis	0.80	0.47	1.34	0.39
Thrombocytopenia	Antiphospholipid antibodies	1.94	1.29	2.92	9.12E-04
Thrombocytopenia	Low C3 or low C4	2.45	1.29	4.92	4.11E-03
Thrombocytopenia	Low C3 and low C4	3.37	2.01	5.84	6.83E-07
Thrombocytopenia	Anti-dsDNAantibody	1.43	0.80	2.63	0.22
Thrombocytopenia	Anti-Sm antibody	1.27	0.86	1.88	0.22
Autoimmune hemolysis	Proteinuria	1.38	0.81	2.37	0.24
Autoimmune hemolysis	Class II or V lupus nephritis	1.08	0.52	2.13	0.87
Autoimmune hemolysis	Class III or IV lupus nephritis	1.30	0.64	2.48	0.40
Autoimmune hemolysis	Antiphospholipid antibodies	1.26	0.71	2.20	0.41
Autoimmune hemolysis	Low C3 or low C4	6.37	1.63	54.90	2.39E-03
Autoimmune hemolysis	Low C3 and low C4	6.67	2.40	25.80	8.93E-06
Autoimmune hemolysis	Anti-dsDNAantibody	1.13	0.52	2.71	0.85
Autoimmune hemolysis	Anti-Sm antibody	0.88	0.51	1.51	0.69
Proteinuria	Class II or V lupus nephritis	186.31	31.85	7177.96	6.98E-36

Proteinuria	Class III or IV lupus nephritis	200.77	34.36	7698.90	7.32E-38
Proteinuria	Antiphospholipid antibodies	1.24	0.83	1.83	0.29
Proteinuria	Low C3 or low C4	5.72	2.81	12.88	1.92E-08
Proteinuria	Low C3 and low C4	4.39	2.65	7.47	2.37E-10
Proteinuria	Anti-dsDNAantibody	4.11	2.14	8.43	1.86E-06
Proteinuria	Anti-Sm antibody	1.32	0.91	1.91	0.15
Class II or V lupus nephritis	Class III or IV lupus nephritis	2.32	1.32	4.02	2.33E-03
Class II or V lupus nephritis	Antiphospholipid antibodies	0.86	0.50	1.46	0.61
Class II or V lupus nephritis	Low C3 or low C4	3.83	1.37	14.89	0.01
Class II or V lupus nephritis	Low C3 and low C4	2.62	1.32	5.71	3.43E-03
Class II or V lupus nephritis	Anti-dsDNAantibody	1.73	0.78	4.36	0.18
Class II or V lupus nephritis	Anti-Sm antibody	1.41	0.86	2.33	0.16
Class III or IV lupus nephritis	Antiphospholipid antibodies	0.87	0.51	1.45	0.62
Class III or IV lupus nephritis	Low C3 or low C4	17.99	3.03	728.54	7.40E-06
Class III or IV lupus nephritis	Low C3 and low C4	5.86	2.48	16.91	1.27E-06
Class III or IV lupus nephritis	Anti-dsDNAantibody	5.69	1.80	28.99	6.36E-04
Class III or IV lupus nephritis	Anti-Sm antibody	0.87	0.54	1.41	0.56
Antiphospholipid antibodies	Low C3 or low C4	2.06	1.06	4.26	0.03
Antiphospholipid antibodies	Low C3 and low C4	1.40	0.86	2.30	0.17
Antiphospholipid antibodies	Anti-dsDNAantibody	2.45	1.25	5.19	0.01
Antiphospholipid antibodies	Anti-Sm antibody	0.76	0.51	1.14	0.17
Low C3 or low C4	Low C3 and low C4	Inf	111.41	Inf	3.09E-49
Low C3 or low C4	Anti-dsDNAantibody	5.36	2.85	10.00	7.72E-08
Low C3 or low C4	Anti-Sm antibody	1.61	0.92	2.85	0.09
Low C3 and low C4	Anti-dsDNAantibody	7.10	3.88	13.29	6.38E-12
Low C3 and low C4	Anti-Sm antibody	2.64	1.67	4.21	1.41E-05
Anti-dsDNAantibody	Anti-Sm antibody	1.33	0.77	2.32	0.30

Supplementary Table S6. Correlations with first principal component (PC1)

*Abbreviations: TMA: Thrombotic microangiopathy, APS: Antiphospholipid syndrome

Variable	Correlation
Thrombocytopenia	0.49
Autoimmune hemolysis	0.48
Proteinuria	0.45
Low C3 or low C4	0.42
Fever	0.41
Psychosis	0.40
Anti-Sm antibody	0.39
TMA	0.34
Hemophagocytic syndrome	0.33
Anti-SS-A antibody	0.31
Leukopenia	0.31
Anti-RNP antibody	0.29
Class II or V lupus nephritis	0.26
Non-scarring alopecia	0.26
APS	0.25
Oral ulcers	0.25
Anti-dsDNA antibody	0.24
Class III or IV lupus nephritis	0.23
Diffuse alveolar hemorrhage	0.23
Antiphospholipid antibodies	0.21
Lupus colitis	0.16
Seizure	0.16
Delirium	0.14
Acute cutaneous lupus	0.13
Pleural or pericardial effusion	0.12
Pulmonary hypertension	0.10
Subacute cutaneous / discoid lupus	0.09
Joint involvement	0.08
Sex	0.05
Transverse myelitis	0.01
Acute pericarditis	0.00

Supplementary Table S7. Associations with thrombocytopenia

Clinical indice	<i>p</i> value	OR (95% CI)
Autoimmune hemolysis	6.42E-15	8.84 (4.72-17.52)
Psychosis	3.15E-06	3.71 (2.06-6.83)
Thrombotic microangiopathy	9.31E-05	Inf (3.6-Inf)
Antiphospholipid antibodies	9.12E-04	1.94 (1.29-2.92)
Antiphospholipid syndrome	9.39E-04	2.93 (1.5-5.83)
Low C3 or low C4	4.11E-03	2.45 (1.29-4.92)
Hemophagocytic syndrome	8.02E-03	4.06 (1.27-15.14)
Leukopenia	0.01	1.76 (1.11-2.84)
Diffuse alveolar hemorrhage	0.04	4.23 (0.95-25.66)
Fever	0.04	1.5 (1.01-2.24)
Proteinuria	0.06	1.42 (0.97-2.09)
Pulmonary hypertension	0.11	2.33 (0.76-7.5)
Anti-Sm antibody	0.22	1.27 (0.86-1.88)
Seizure	0.22	1.79 (0.62-5.18)
Anti-dsDNA antibody	0.22	1.43 (0.8-2.63)
Delirium	0.29	3.61 (0.19-214.11)
Lupus colitis	0.32	0.53 (0.12-1.76)
Pleural or pericardial effusion	0.39	1.25 (0.75-2.06)
Class III or IV lupus nephritis	0.39	0.8 (0.47-1.34)
Oral ulcers	0.41	1.18 (0.78-1.79)
Joint involvement	0.44	0.8 (0.48-1.36)
Anti-SS-A antibody	0.49	1.17 (0.78-1.75)
Acute cutaneous lupus	0.51	0.86 (0.55-1.36)
Acute pericarditis	0.62	1.77 (0.13-24.63)
Anti-RNP antibody	0.63	1.1 (0.74-1.64)
Subacute cutaneous / discoid lupus	0.67	1.11 (0.71-1.73)
Non-scarring alopecia	0.85	1.04 (0.7-1.55)
Class II or V lupus nephritis	0.90	0.95 (0.56-1.58)
Female	1.00	0.96 (0.49-1.93)
Transverse myelitis	1.00	0.7 (0.07-4.35)

Supplementary Table S8. Inter-phenotype correlations

item1	item2	r²
Proteinuria	Class III or IV lupus nephritis	0.57
Proteinuria	Class II or V lupus nephritis	0.51
Thrombotic microangiopathy	Autoimmune hemolysis	0.33
Thrombocytopenia	Autoimmune hemolysis	0.32
Psychosis	Seizure	0.27
Low C3 or low C4	Anti-dsDNA antibody	0.27
Fever	Joint involvement	0.26
Fever	Anti-Sm antibody	0.25
Subacute cutaneous / discoid lupus	Acute cutaneous lupus	0.25
Non-scarring alopecia	Acute cutaneous lupus	0.24
Proteinuria	Low C3 or low C4	0.23
Class II or V lupus nephritis	Class III or IV lupus nephritis	0.22
Psychosis	Autoimmune hemolysis	0.21
Hemophagocytic syndrome	Psychosis	0.21
Oral ulcers	Acute cutaneous lupus	0.21
Thrombotic microangiopathy	Hemophagocytic syndrome	0.21
Delirium	Psychosis	0.21
Anti-SS-A antibody	Leukopenia	0.20
Non-scarring alopecia	Oral ulcers	0.20
Delirium	Seizure	0.19
Psychosis	Thrombocytopenia	0.19
Thrombocytopenia	Antiphospholipid antibodies	0.19
Fever	Psychosis	0.19
Hemophagocytic syndrome	Autoimmune hemolysis	0.18
Proteinuria	Anti-dsDNA antibody	0.18
Diffuse alveolar hemorrhage	Proteinuria	0.18
Non-scarring alopecia	Subacute cutaneous / discoid lupus	0.18
Class III or IV lupus nephritis	Low C3 or low C4	0.18
Pulmonary hypertension	Acute cutaneous lupus	0.18
Hemophagocytic syndrome	Fever	0.17
Fever	Oral ulcers	0.17
Thrombotic microangiopathy	Thrombocytopenia	0.17
Fever	Acute cutaneous lupus	0.17
Anti-SS-A antibody	Anti-Sm antibody	0.17
Oral ulcers	Subacute cutaneous / discoid lupus	0.16
Fever	Pleural or pericardial effusion	0.16
Sex	Hemophagocytic syndrome	0.16
Joint involvement	Delirium	0.16
Leukopenia	Thrombocytopenia	0.15
Class III or IV lupus nephritis	Anti-dsDNA antibody	0.15

Diffuse alveolar hemorrhage	Autoimmune hemolysis	0.14
Non-scarring alopecia	Anti-Sm antibody	0.14
Oral ulcers	Joint involvement	0.14
Acute pericarditis	Low C3 or low C4	0.14
Lupus colitis	Acute pericarditis	0.14
Antiphospholipid antibodies	Anti-dsDNA antibody	0.14
Leukopenia	Low C3 or low C4	0.14
Acute pericarditis	Anti-dsDNA antibody	0.13
Sex	Anti-SS-A antibody	0.13
Anti-SS-A antibody	Low C3 or low C4	0.13
Acute cutaneous lupus	Pleural or pericardial effusion	0.13
Hemophagocytic syndrome	Thrombocytopenia	0.13
Transverse myelitis	Class III or IV lupus nephritis	0.13
Hemophagocytic syndrome	Anti-dsDNA antibody	0.13
Psychosis	Leukopenia	0.13
Antiphospholipid antibodies	Low C3 or low C4	0.12
Lupus colitis	Anti-dsDNA antibody	0.12
Diffuse alveolar hemorrhage	Thrombotic microangiopathy	0.12
Joint involvement	Seizure	0.12
Thrombocytopenia	Low C3 or low C4	0.12
Pleural or pericardial effusion	Acute pericarditis	0.12
Diffuse alveolar hemorrhage	Joint involvement	0.11
Anti-SS-A antibody	Non-scarring alopecia	0.11
Joint involvement	Anti-Sm antibody	0.11
Pleural or pericardial effusion	Class III or IV lupus nephritis	0.11
Hemophagocytic syndrome	Leukopenia	0.11
Sex	Class II or V lupus nephritis	0.11
Leukopenia	Anti-Sm antibody	0.11
Autoimmune hemolysis	Low C3 or low C4	0.11
Sex	Anti-dsDNA antibody	0.11
Fever	Thrombocytopenia	0.11
Seizure	Autoimmune hemolysis	0.11
Diffuse alveolar hemorrhage	Antiphospholipid antibodies	0.11
Acute cutaneous lupus	Joint involvement	0.10
Anti-SS-A antibody	Proteinuria	0.10
Transverse myelitis	Antiphospholipid antibodies	0.10
Subacute cutaneous / discoid lupus	Class III or IV lupus nephritis	0.10
Pulmonary hypertension	Anti-SS-A antibody	0.10
Diffuse alveolar hemorrhage	Thrombocytopenia	0.10
Subacute cutaneous / discoid lupus	Proteinuria	0.10
Leukopenia	Autoimmune hemolysis	0.10
Oral ulcers	Autoimmune hemolysis	0.10

Thrombocytopenia	Proteinuria	0.10
Fever	Non-scarring alopecia	0.10
Class II or V lupus nephritis	Low C3 or low C4	0.09
Subacute cutaneous / discoid lupus	Joint involvement	0.09
Pulmonary hypertension	Subacute cutaneous / discoid lupus	0.09
Transverse myelitis	Joint involvement	0.09
Transverse myelitis	Pleural or pericardial effusion	0.09
Acute pericarditis	Anti-Sm antibody	0.09
Sex	Low C3 or low C4	0.09
Thrombotic microangiopathy	Psychosis	0.09
Hemophagocytic syndrome	Joint involvement	0.09
Pulmonary hypertension	Antiphospholipid antibodies	0.09
Antiphospholipid antibodies	Anti-Sm antibody	0.09
Proteinuria	Anti-Sm antibody	0.09
Acute cutaneous lupus	Antiphospholipid antibodies	0.09
Lupus colitis	Antiphospholipid antibodies	0.09
Transverse myelitis	Seizure	0.09
Sex	Acute pericarditis	0.09
Acute cutaneous lupus	Class III or IV lupus nephritis	0.08
Oral ulcers	Anti-Sm antibody	0.08
Oral ulcers	Anti-dsDNA antibody	0.08
Non-scarring alopecia	Joint involvement	0.08
Pulmonary hypertension	Thrombocytopenia	0.08
Seizure	Class II or V lupus nephritis	0.08
Pulmonary hypertension	Class III or IV lupus nephritis	0.08
Anti-SS-A antibody	Class II or V lupus nephritis	0.08
Non-scarring alopecia	Psychosis	0.08
Pulmonary hypertension	Diffuse alveolar hemorrhage	0.08
Joint involvement	Leukopenia	0.08
Delirium	Autoimmune hemolysis	0.08
Lupus colitis	Autoimmune hemolysis	0.08
Subacute cutaneous / discoid lupus	Antiphospholipid antibodies	0.08
Hemophagocytic syndrome	Low C3 or low C4	0.08
Non-scarring alopecia	Leukopenia	0.08
Non-scarring alopecia	Low C3 or low C4	0.08
Class II or V lupus nephritis	Anti-Sm antibody	0.08
Anti-SS-A antibody	Fever	0.07
Pleural or pericardial effusion	Proteinuria	0.07
Thrombotic microangiopathy	Fever	0.07
Sex	Non-scarring alopecia	0.07
Diffuse alveolar hemorrhage	Acute cutaneous lupus	0.07
Acute cutaneous lupus	Seizure	0.07

Diffuse alveolar hemorrhage	Fever	0.07
Sex	Proteinuria	0.07
Transverse myelitis	Anti-SS-A antibody	0.07
Sex	Subacute cutaneous / discoid lupus	0.07
Psychosis	Anti-dsDNA antibody	0.07
Diffuse alveolar hemorrhage	Leukopenia	0.07
Psychosis	Anti-Sm antibody	0.07
Diffuse alveolar hemorrhage	Seizure	0.07
Diffuse alveolar hemorrhage	Class II or V lupus nephritis	0.07
Pulmonary hypertension	Anti-dsDNA antibody	0.07
Diffuse alveolar hemorrhage	Non-scarring alopecia	0.07
Pulmonary hypertension	Anti-Sm antibody	0.07
Anti-dsDNA antibody	Anti-Sm antibody	0.07
Joint involvement	Anti-dsDNA antibody	0.07
Joint involvement	Proteinuria	0.07
Diffuse alveolar hemorrhage	Anti-dsDNA antibody	0.07
Hemophagocytic syndrome	Pleural or pericardial effusion	0.07
Autoimmune hemolysis	Antiphospholipid antibodies	0.07
Fever	Proteinuria	0.06
Anti-SS-A antibody	Anti-dsDNA antibody	0.06
Pulmonary hypertension	Seizure	0.06
Diffuse alveolar hemorrhage	Low C3 or low C4	0.06
Transverse myelitis	Class II or V lupus nephritis	0.06
Non-scarring alopecia	Anti-dsDNA antibody	0.06
Lupus colitis	Class III or IV lupus nephritis	0.06
Delirium	Pleural or pericardial effusion	0.06
Psychosis	Acute pericarditis	0.06
Thrombotic microangiopathy	Proteinuria	0.06
Lupus colitis	Class II or V lupus nephritis	0.06
Leukopenia	Class III or IV lupus nephritis	0.06
Joint involvement	Class III or IV lupus nephritis	0.06
Oral ulcers	Thrombocytopenia	0.06
Low C3 or low C4	Anti-Sm antibody	0.06
Lupus colitis	Thrombocytopenia	0.06
Seizure	Low C3 or low C4	0.06
Subacute cutaneous / discoid lupus	Leukopenia	0.06
Thrombotic microangiopathy	Anti-SS-A antibody	0.06
Joint involvement	Class II or V lupus nephritis	0.06
Subacute cutaneous / discoid lupus	Autoimmune hemolysis	0.06
Class III or IV lupus nephritis	Antiphospholipid antibodies	0.06
Anti-SS-A antibody	Delirium	0.06
Non-scarring alopecia	Class II or V lupus nephritis	0.06

Sex	Seizure	0.06
Transverse myelitis	Acute cutaneous lupus	0.06
Transverse myelitis	Anti-Sm antibody	0.06
Pulmonary hypertension	Class II or V lupus nephritis	0.06
Thrombotic microangiopathy	Class II or V lupus nephritis	0.06
Seizure	Antiphospholipid antibodies	0.06
Acute pericarditis	Thrombocytopenia	0.06
Pulmonary hypertension	Proteinuria	0.06
Transverse myelitis	Anti-dsDNA antibody	0.06
Fever	Leukopenia	0.06
Psychosis	Pleural or pericardial effusion	0.06
Sex	Autoimmune hemolysis	0.06
Oral ulcers	Leukopenia	0.06
Non-scarring alopecia	Seizure	0.06
Seizure	Anti-dsDNA antibody	0.06
Anti-SS-A antibody	Pleural or pericardial effusion	0.05
Hemophagocytic syndrome	Oral ulcers	0.05
Diffuse alveolar hemorrhage	Class III or IV lupus nephritis	0.05
Autoimmune hemolysis	Anti-Sm antibody	0.05
Seizure	Thrombocytopenia	0.05
Acute pericarditis	Autoimmune hemolysis	0.05
Thrombotic microangiopathy	Anti-dsDNA antibody	0.05
Pleural or pericardial effusion	Anti-dsDNA antibody	0.05
Acute cutaneous lupus	Acute pericarditis	0.05
Diffuse alveolar hemorrhage	Anti-SS-A antibody	0.05
Lupus colitis	Acute cutaneous lupus	0.05
Thrombotic microangiopathy	Low C3 or low C4	0.05
Subacute cutaneous / discoid lupus	Acute pericarditis	0.05
Thrombocytopenia	Anti-dsDNA antibody	0.05
Anti-SS-A antibody	Acute pericarditis	0.05
Pulmonary hypertension	Fever	0.05
Anti-SS-A antibody	Thrombocytopenia	0.05
Thrombocytopenia	Anti-Sm antibody	0.05
Thrombotic microangiopathy	Antiphospholipid antibodies	0.05
Sex	Pleural or pericardial effusion	0.05
Lupus colitis	Leukopenia	0.05
Autoimmune hemolysis	Proteinuria	0.05
Pleural or pericardial effusion	Autoimmune hemolysis	0.05
Diffuse alveolar hemorrhage	Subacute cutaneous / discoid lupus	0.05
Hemophagocytic syndrome	Seizure	0.05
Hemophagocytic syndrome	Class II or V lupus nephritis	0.05
Acute cutaneous lupus	Thrombocytopenia	0.05

Non-scarring alopecia	Pleural or pericardial effusion	0.05
Sex	Diffuse alveolar hemorrhage	0.05
Acute cutaneous lupus	Psychosis	0.05
Anti-SS-A antibody	Oral ulcers	0.05
Non-scarring alopecia	Class III or IV lupus nephritis	0.05
Pulmonary hypertension	Non-scarring alopecia	0.05
Fever	Anti-dsDNA antibody	0.05
Lupus colitis	Low C3 or low C4	0.05
Subacute cutaneous / discoid lupus	Delirium	0.05
Acute pericarditis	Class III or IV lupus nephritis	0.04
Joint involvement	Pleural or pericardial effusion	0.04
Thrombotic microangiopathy	Class III or IV lupus nephritis	0.04
Subacute cutaneous / discoid lupus	Pleural or pericardial effusion	0.04
Oral ulcers	Delirium	0.04
Acute cutaneous lupus	Delirium	0.04
Joint involvement	Thrombocytopenia	0.04
Fever	Class II or V lupus nephritis	0.04
Delirium	Leukopenia	0.04
Hemophagocytic syndrome	Proteinuria	0.04
Oral ulcers	Antiphospholipid antibodies	0.04
Joint involvement	Acute pericarditis	0.04
Subacute cutaneous / discoid lupus	Anti-Sm antibody	0.04
Acute pericarditis	Class II or V lupus nephritis	0.04
Sex	Transverse myelitis	0.04
Class II or V lupus nephritis	Anti-dsDNA antibody	0.04
Leukopenia	Class II or V lupus nephritis	0.04
Hemophagocytic syndrome	Non-scarring alopecia	0.04
Transverse myelitis	Proteinuria	0.04
Fever	Low C3 or low C4	0.04
Oral ulcers	Seizure	0.04
Anti-SS-A antibody	Joint involvement	0.04
Pleural or pericardial effusion	Anti-Sm antibody	0.04
Lupus colitis	Hemophagocytic syndrome	0.04
Acute cutaneous lupus	Autoimmune hemolysis	0.04
Subacute cutaneous / discoid lupus	Psychosis	0.04
Pleural or pericardial effusion	Thrombocytopenia	0.04
Sex	Thrombotic microangiopathy	0.04
Subacute cutaneous / discoid lupus	Low C3 or low C4	0.04
Lupus colitis	Fever	0.04
Lupus colitis	Seizure	0.04
Delirium	Class III or IV lupus nephritis	0.04
Joint involvement	Low C3 or low C4	0.04

Seizure	Proteinuria	0.04
Acute cutaneous lupus	Anti-dsDNA antibody	0.04
Transverse myelitis	Leukopenia	0.03
Acute cutaneous lupus	Leukopenia	0.03
Oral ulcers	Pleural or pericardial effusion	0.03
Fever	Subacute cutaneous / discoid lupus	0.03
Pulmonary hypertension	Pleural or pericardial effusion	0.03
Fever	Autoimmune hemolysis	0.03
Delirium	Class II or V lupus nephritis	0.03
Pulmonary hypertension	Lupus colitis	0.03
Pulmonary hypertension	Autoimmune hemolysis	0.03
Pulmonary hypertension	Hemophagocytic syndrome	0.03
Anti-SS-A antibody	Antiphospholipid antibodies	0.03
Diffuse alveolar hemorrhage	Lupus colitis	0.03
Pulmonary hypertension	Low C3 or low C4	0.03
Acute cutaneous lupus	Proteinuria	0.03
Delirium	Anti-dsDNA antibody	0.03
Diffuse alveolar hemorrhage	Hemophagocytic syndrome	0.03
Non-scarring alopecia	Antiphospholipid antibodies	0.03
Delirium	Low C3 or low C4	0.03
Lupus colitis	Proteinuria	0.03
Thrombocytopenia	Class III or IV lupus nephritis	0.03
Transverse myelitis	Lupus colitis	0.03
Non-scarring alopecia	Autoimmune hemolysis	0.03
Diffuse alveolar hemorrhage	Pleural or pericardial effusion	0.03
Lupus colitis	Anti-Sm antibody	0.03
Lupus colitis	Psychosis	0.03
Non-scarring alopecia	Thrombocytopenia	0.03
Transverse myelitis	Hemophagocytic syndrome	0.03
Anti-SS-A antibody	Autoimmune hemolysis	0.03
Thrombotic microangiopathy	Lupus colitis	0.03
Class II or V lupus nephritis	Antiphospholipid antibodies	0.03
Thrombotic microangiopathy	Leukopenia	0.03
Sex	Joint involvement	0.02
Non-scarring alopecia	Proteinuria	0.02
Proteinuria	Antiphospholipid antibodies	0.02
Sex	Antiphospholipid antibodies	0.02
Thrombotic microangiopathy	Seizure	0.02
Thrombotic microangiopathy	Acute cutaneous lupus	0.02
Leukopenia	Anti-dsDNA antibody	0.02
Anti-SS-A antibody	Seizure	0.02
Transverse myelitis	Pulmonary hypertension	0.02

Delirium	Antiphospholipid antibodies	0.02
Pleural or pericardial effusion	Low C3 or low C4	0.02
Subacute cutaneous / discoid lupus	Thrombocytopenia	0.02
Subacute cutaneous / discoid lupus	Anti-dsDNA antibody	0.02
Pulmonary hypertension	Oral ulcers	0.02
Thrombotic microangiopathy	Subacute cutaneous / discoid lupus	0.02
Transverse myelitis	Diffuse alveolar hemorrhage	0.02
Pleural or pericardial effusion	Leukopenia	0.02
Oral ulcers	Proteinuria	0.02
Transverse myelitis	Thrombocytopenia	0.02
Sex	Delirium	0.02
Thrombotic microangiopathy	Oral ulcers	0.02
Pulmonary hypertension	Thrombotic microangiopathy	0.02
Delirium	Thrombocytopenia	0.02
Oral ulcers	Psychosis	0.02
Fever	Acute pericarditis	0.02
Hemophagocytic syndrome	Class III or IV lupus nephritis	0.02
Lupus colitis	Oral ulcers	0.02
Sex	Acute cutaneous lupus	0.02
Fever	Class III or IV lupus nephritis	0.02
Pulmonary hypertension	Leukopenia	0.02
Leukopenia	Proteinuria	0.02
Pleural or pericardial effusion	Class II or V lupus nephritis	0.02
Subacute cutaneous / discoid lupus	Class II or V lupus nephritis	0.02
Non-scarring alopecia	Acute pericarditis	0.02
Psychosis	Low C3 or low C4	0.02
Lupus colitis	Pleural or pericardial effusion	0.02
Transverse myelitis	Thrombotic microangiopathy	0.02
Oral ulcers	Low C3 or low C4	0.02
Acute pericarditis	Proteinuria	0.02
Hemophagocytic syndrome	Acute pericarditis	0.02
Acute pericarditis	Leukopenia	0.02
Thrombotic microangiopathy	Non-scarring alopecia	0.02
Psychosis	Proteinuria	0.02
Lupus colitis	Joint involvement	0.02
Diffuse alveolar hemorrhage	Anti-Sm antibody	0.02
Seizure	Acute pericarditis	0.02
Sex	Leukopenia	0.02
Class III or IV lupus nephritis	Anti-Sm antibody	0.02
Lupus colitis	Anti-SS-A antibody	0.02
Psychosis	Class III or IV lupus nephritis	0.02
Hemophagocytic syndrome	Anti-Sm antibody	0.02

Oral ulcers	Acute pericarditis	0.02
Pulmonary hypertension	Acute pericarditis	0.02
Transverse myelitis	Subacute cutaneous / discoid lupus	0.01
Lupus colitis	Delirium	0.01
Diffuse alveolar hemorrhage	Acute pericarditis	0.01
Hemophagocytic syndrome	Delirium	0.01
Hemophagocytic syndrome	Antiphospholipid antibodies	0.01
Seizure	Class III or IV lupus nephritis	0.01
Diffuse alveolar hemorrhage	Oral ulcers	0.01
Sex	Pulmonary hypertension	0.01
Acute cutaneous lupus	Class II or V lupus nephritis	0.01
Transverse myelitis	Acute pericarditis	0.01
Fever	Seizure	0.01
Pulmonary hypertension	Delirium	0.01
Transverse myelitis	Psychosis	0.01
Lupus colitis	Subacute cutaneous / discoid lupus	0.01
Joint involvement	Autoimmune hemolysis	0.01
Diffuse alveolar hemorrhage	Delirium	0.01
Thrombotic microangiopathy	Acute pericarditis	0.01
Anti-SS-A antibody	Subacute cutaneous / discoid lupus	0.01
Pulmonary hypertension	Joint involvement	0.01
Sex	Oral ulcers	0.01
Oral ulcers	Class III or IV lupus nephritis	0.01
Delirium	Proteinuria	0.01
Sex	Psychosis	0.01
Transverse myelitis	Delirium	0.01
Non-scarring alopecia	Delirium	0.01
Sex	Thrombocytopenia	0.01
Thrombotic microangiopathy	Delirium	0.01
Acute cutaneous lupus	Anti-Sm antibody	0.01
Sex	Anti-Sm antibody	0.01
Transverse myelitis	Oral ulcers	0.01
Joint involvement	Psychosis	0.01
Pulmonary hypertension	Psychosis	0.01
Sex	Class III or IV lupus nephritis	0.01
Anti-SS-A antibody	Class III or IV lupus nephritis	0.01
Fever	Delirium	0.01
Autoimmune hemolysis	Class III or IV lupus nephritis	0.01
Hemophagocytic syndrome	Acute cutaneous lupus	0.01
Delirium	Acute pericarditis	0.01
Autoimmune hemolysis	Class II or V lupus nephritis	0.01
Anti-SS-A antibody	Psychosis	0.01

Transverse myelitis	Fever	0.01
Joint involvement	Antiphospholipid antibodies	0.01
Sex	Lupus colitis	0.01
Psychosis	Antiphospholipid antibodies	0.01
Thrombocytopenia	Class II or V lupus nephritis	0.01
Acute cutaneous lupus	Low C3 or low C4	0.01
Seizure	Pleural or pericardial effusion	0.01
Hemophagocytic syndrome	Anti-SS-A antibody	0.00
Anti-SS-A antibody	Acute cutaneous lupus	0.00
Hemophagocytic syndrome	Subacute cutaneous / discoid lupus	0.00
Subacute cutaneous / discoid lupus	Seizure	0.00
Pleural or pericardial effusion	Antiphospholipid antibodies	0.00
Thrombotic microangiopathy	Pleural or pericardial effusion	0.00
Transverse myelitis	Autoimmune hemolysis	0.00
Fever	Antiphospholipid antibodies	0.00
Acute pericarditis	Antiphospholipid antibodies	0.00
Thrombotic microangiopathy	Joint involvement	0.00
Psychosis	Class II or V lupus nephritis	0.00
Transverse myelitis	Low C3 or low C4	0.00
Lupus colitis	Non-scarring alopecia	0.00
Leukopenia	Antiphospholipid antibodies	0.00
Autoimmune hemolysis	Anti-dsDNA antibody	0.00
Diffuse alveolar hemorrhage	Psychosis	0.00
Transverse myelitis	Non-scarring alopecia	0.00
Oral ulcers	Class II or V lupus nephritis	0.00
Sex	Fever	0.00
Seizure	Anti-Sm antibody	0.00
Thrombotic microangiopathy	Anti-Sm antibody	0.00
Seizure	Leukopenia	0.00
Delirium	Anti-Sm antibody	0.00

Supplementary Table S9. Result of LASSO logistic regression

*Abbreviations: TMA: Thrombotic microangiopathy

Objective variable	Explanatory variable	Coefficient	AUC
Acute cutaneous lupus	Subacute cutaneous / discoid lupus	0.21	0.76
	Non-scarring alopecia	0.11	
	Oral ulcers	0.02	
	Acute pericarditis	0.00	
	Anti-dsDNA antibody	0.00	
	Antiphospholipid antibodies	0.00	
	Anti-Sm antibody	0.00	
	Anti-SS-A antibody	0.00	
	Autoimmune hemolysis	0.00	
	Class III or IV lupus nephritis	0.00	
	Class II or V lupus nephritis	0.00	
	Delirium	0.00	
	Fever	0.00	
	Hemophagocytic syndrome	0.00	
	Joint involvement	0.00	
	Leukopenia	0.00	
	Low C3 or low C4	0.00	
	Lupus colitis	0.00	
	Pleural or pericardial effusion	0.00	
	Proteinuria	0.00	
	Psychosis	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Female	0.00	
	Thrombocytopenia	0.00	
	TMA	0.00	
	Transverse myelitis	0.00	
	Seizure	0.00	
Pulmonary hypertension	-0.04		
Thrombocytopenia	0.08		
Acute cutaneous lupus	0.00		
Acute pericarditis	0.00		
Anti-dsDNA antibody	0.00		
Antiphospholipid antibodies	0.00		
Autoimmune hemolysis	Anti-Sm antibody	0.00	0.78
	Anti-SS-A antibody	0.00	
	Class III or IV lupus nephritis	0.00	
	Class II or V lupus nephritis	0.00	
	Delirium	0.00	
	Fever	0.00	

	Hemophagocytic syndrome	0.00	
	Joint involvement	0.00	
	Leukopenia	0.00	
	Low C3 or low C4	0.00	
	Lupus colitis	0.00	
	Non-scarring alopecia	0.00	
	Oral ulcers	0.00	
	Pleural or pericardial effusion	0.00	
	Proteinuria	0.00	
	Psychosis	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Pulmonary hypertension	0.00	
	Seizure	0.00	
	Female	0.00	
	Subacute cutaneous / discoid lupus	0.00	
	Transverse myelitis	0.00	
	Proteinuria	0.71	
	Acute cutaneous lupus	0.00	
	Acute pericarditis	0.00	
	Anti-dsDNA antibody	0.00	
	Antiphospholipid antibodies	0.00	
	Anti-Sm antibody	0.00	
	Anti-SS-A antibody	0.00	
	Autoimmune hemolysis	0.00	
	Delirium	0.00	
	Fever	0.00	
	Hemophagocytic syndrome	0.00	
	Joint involvement	0.00	
	Leukopenia	0.00	
Class III or IV lupus nephritis	Low C3 or low C4	0.00	0.84
	Lupus colitis	0.00	
	Non-scarring alopecia	0.00	
	Oral ulcers	0.00	
	Pleural or pericardial effusion	0.00	
	Psychosis	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Pulmonary hypertension	0.00	
	Seizure	0.00	
	Female	0.00	
	Subacute cutaneous / discoid lupus	0.00	
	Thrombocytopenia	0.00	
	TMA	0.00	

	Transverse myelitis	0.00	
	Proteinuria	0.12	
	Acute cutaneous lupus	0.00	
	Acute pericarditis	0.00	
	Anti-dsDNA antibody	0.00	
	Antiphospholipid antibodies	0.00	
	Anti-Sm antibody	0.00	
	Anti-SS-A antibody	0.00	
	Autoimmune hemolysis	0.00	
	Delirium	0.00	
	Fever	0.00	
	Hemophagocytic syndrome	0.00	
	Joint involvement	0.00	
	Leukopenia	0.00	
Class II or V lupus nephritis	Low C3 or low C4	0.00	0.79
	Lupus colitis	0.00	
	Non-scarring alopecia	0.00	
	Oral ulcers	0.00	
	Pleural or pericardial effusion	0.00	
	Psychosis	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Pulmonary hypertension	0.00	
	Seizure	0.00	
	Female	0.00	
	Subacute cutaneous / discoid lupus	0.00	
	Thrombocytopenia	0.00	
	TMA	0.00	
	Transverse myelitis	0.00	
	Anti-Sm antibody	0.31	
	Joint involvement	0.23	
	Pleural or pericardial effusion	0.14	
	Oral ulcers	0.03	
	Psychosis	0.03	
	Acute cutaneous lupus	0.00	
	Acute pericarditis	0.00	
Fever	Anti-dsDNA antibody	0.00	0.62
	Antiphospholipid antibodies	0.00	
	Anti-SS-A antibody	0.00	
	Autoimmune hemolysis	0.00	
	Class III or IV lupus nephritis	0.00	
	Class II or V lupus nephritis	0.00	
	Delirium	0.00	

	Hemophagocytic syndrome	0.00	
	Leukopenia	0.00	
	Low C3 or low C4	0.00	
	Lupus colitis	0.00	
	Non-scarring alopecia	0.00	
	Proteinuria	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Pulmonary hypertension	0.00	
	Seizure	0.00	
	Female	0.00	
	Subacute cutaneous / discoid lupus	0.00	
	Thrombocytopenia	0.00	
	TMA	0.00	
	Transverse myelitis	0.00	
	Psychosis	0.19	
	TMA	0.09	
	Acute cutaneous lupus	0.00	
	Acute pericarditis	0.00	
	Anti-dsDNA antibody	0.00	
	Antiphospholipid antibodies	0.00	
	Anti-Sm antibody	0.00	
	Anti-SS-A antibody	0.00	
	Autoimmune hemolysis	0.00	
	Class III or IV lupus nephritis	0.00	
	Class II or V lupus nephritis	0.00	
	Delirium	0.00	
	Fever	0.00	
	Joint involvement	0.00	
Hemophagocytic syndrome	Leukopenia	0.00	0.54
	Low C3 or low C4	0.00	
	Lupus colitis	0.00	
	Non-scarring alopecia	0.00	
	Oral ulcers	0.00	
	Pleural or pericardial effusion	0.00	
	Proteinuria	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Pulmonary hypertension	0.00	
	Seizure	0.00	
	Female	0.00	
	Subacute cutaneous / discoid lupus	0.00	
	Thrombocytopenia	0.00	
	Transverse myelitis	0.00	

	Fever	0.13	
	Acute cutaneous lupus	0.00	
	Acute pericarditis	0.00	
	Anti-dsDNA antibody	0.00	
	Antiphospholipid antibodies	0.00	
	Anti-Sm antibody	0.00	
	Anti-SS-A antibody	0.00	
	Autoimmune hemolysis	0.00	
	Class III or IV lupus nephritis	0.00	
	Class II or V lupus nephritis	0.00	
	Delirium	0.00	
	Hemophagocytic syndrome	0.00	
	Leukopenia	0.00	
Joint involvement	Low C3 or low C4	0.00	0.62
	Lupus colitis	0.00	
	Non-scarring alopecia	0.00	
	Oral ulcers	0.00	
	Pleural or pericardial effusion	0.00	
	Proteinuria	0.00	
	Psychosis	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Pulmonary hypertension	0.00	
	Seizure	0.00	
	Female	0.00	
	Subacute cutaneous / discoid lupus	0.00	
	Thrombocytopenia	0.00	
	TMA	0.00	
	Transverse myelitis	0.00	
	Anti-SS-A antibody	0.17	
	Low C3 or low C4	0.11	
	Acute cutaneous lupus	0.00	
	Acute pericarditis	0.00	
	Anti-dsDNA antibody	0.00	
	Antiphospholipid antibodies	0.00	
Leukopenia	Anti-Sm antibody	0.00	0.50
	Autoimmune hemolysis	0.00	
	Class III or IV lupus nephritis	0.00	
	Class II or V lupus nephritis	0.00	
	Delirium	0.00	
	Fever	0.00	
	Hemophagocytic syndrome	0.00	
	Joint involvement	0.00	

	Lupus colitis	0.00	
	Non-scarring alopecia	0.00	
	Oral ulcers	0.00	
	Pleural or pericardial effusion	0.00	
	Proteinuria	0.00	
	Psychosis	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Pulmonary hypertension	0.00	
	Seizure	0.00	
	Female	0.00	
	Subacute cutaneous / discoid lupus	0.00	
	Thrombocytopenia	0.00	
	TMA	0.00	
	Transverse myelitis	0.00	
	Acute pericarditis	0.20	
	Acute cutaneous lupus	0.00	
	Anti-dsDNA antibody	0.00	
	Anti-Sm antibody	0.00	
	Anti-SS-A antibody	0.00	
	Autoimmune hemolysis	0.00	
	Class III or IV lupus nephritis	0.00	
	Class II or V lupus nephritis	0.00	
	Delirium	0.00	
	Fever	0.00	
	Hemophagocytic syndrome	0.00	
	Joint involvement	0.00	
	Leukopenia	0.00	
	Low C3 or low C4	0.00	
Lupus colitis	Non-scarring alopecia	0.00	0.51
	Oral ulcers	0.00	
	Pleural or pericardial effusion	0.00	
	Proteinuria	0.00	
	Psychosis	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Pulmonary hypertension	0.00	
	Seizure	0.00	
	Female	0.00	
	Subacute cutaneous / discoid lupus	0.00	
	Thrombocytopenia	0.00	
	TMA	0.00	
	Transverse myelitis	0.00	
	Antiphospholipid antibodies	-0.08	

	Acute cutaneous lupus	0.12	
	Oral ulcers	0.03	
	Anti-Sm antibody	0.01	
	Acute pericarditis	0.00	
	Anti-dsDNA antibody	0.00	
	Antiphospholipid antibodies	0.00	
	Anti-SS-A antibody	0.00	
	Autoimmune hemolysis	0.00	
	Class III or IV lupus nephritis	0.00	
	Class II or V lupus nephritis	0.00	
	Delirium	0.00	
	Fever	0.00	
	Hemophagocytic syndrome	0.00	
Non-scarring alopecia	Joint involvement	0.00	0.73
	Leukopenia	0.00	
	Low C3 or low C4	0.00	
	Lupus colitis	0.00	
	Pleural or pericardial effusion	0.00	
	Proteinuria	0.00	
	Psychosis	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Pulmonary hypertension	0.00	
	Seizure	0.00	
	Female	0.00	
	Subacute cutaneous / discoid lupus	0.00	
	Thrombocytopenia	0.00	
	TMA	0.00	
	Transverse myelitis	0.00	
	Fever	0.07	
	Acute cutaneous lupus	0.03	
	Non-scarring alopecia	0.02	
	Acute pericarditis	0.00	
	Anti-dsDNA antibody	0.00	
	Antiphospholipid antibodies	0.00	
Oral ulcers	Anti-Sm antibody	0.00	0.68
	Anti-SS-A antibody	0.00	
	Autoimmune hemolysis	0.00	
	Class III or IV lupus nephritis	0.00	
	Class II or V lupus nephritis	0.00	
	Delirium	0.00	
	Hemophagocytic syndrome	0.00	
	Joint involvement	0.00	

	Leukopenia	0.00	
	Low C3 or low C4	0.00	
	Lupus colitis	0.00	
	Pleural or pericardial effusion	0.00	
	Proteinuria	0.00	
	Psychosis	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Pulmonary hypertension	0.00	
	Seizure	0.00	
	Female	0.00	
	Subacute cutaneous / discoid lupus	0.00	
	Thrombocytopenia	0.00	
	TMA	0.00	
	Transverse myelitis	0.00	
	Fever	0.22	
	Acute cutaneous lupus	0.00	
	Acute pericarditis	0.00	
	Anti-dsDNA antibody	0.00	
	Antiphospholipid antibodies	0.00	
	Anti-Sm antibody	0.00	
	Anti-SS-A antibody	0.00	
	Autoimmune hemolysis	0.00	
	Class III or IV lupus nephritis	0.00	
	Class II or V lupus nephritis	0.00	
	Delirium	0.00	
	Hemophagocytic syndrome	0.00	
	Joint involvement	0.00	
Pleural or pericardial effusion	Leukopenia	0.00	0.53
	Low C3 or low C4	0.00	
	Lupus colitis	0.00	
	Non-scarring alopecia	0.00	
	Oral ulcers	0.00	
	Proteinuria	0.00	
	Psychosis	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Pulmonary hypertension	0.00	
	Seizure	0.00	
	Female	0.00	
	Subacute cutaneous / discoid lupus	0.00	
	Thrombocytopenia	0.00	
	TMA	0.00	
	Transverse myelitis	0.00	

	Class III or IV lupus nephritis	0.25	
	Class II or V lupus nephritis	0.13	
	Acute cutaneous lupus	0.00	
	Acute pericarditis	0.00	
	Anti-dsDNA antibody	0.00	
	Antiphospholipid antibodies	0.00	
	Anti-Sm antibody	0.00	
	Anti-SS-A antibody	0.00	
	Autoimmune hemolysis	0.00	
	Delirium	0.00	
	Fever	0.00	
	Hemophagocytic syndrome	0.00	
	Joint involvement	0.00	
	Leukopenia	0.00	
Proteinuria	Low C3 or low C4	0.00	0.81
	Lupus colitis	0.00	
	Non-scarring alopecia	0.00	
	Oral ulcers	0.00	
	Pleural or pericardial effusion	0.00	
	Psychosis	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Pulmonary hypertension	0.00	
	Seizure	0.00	
	Female	0.00	
	Subacute cutaneous / discoid lupus	0.00	
	Thrombocytopenia	0.00	
	TMA	0.00	
	Transverse myelitis	0.00	
	Hemophagocytic syndrome	0.26	
	Seizure	0.17	
	Fever	0.08	
	Acute cutaneous lupus	0.00	
	Acute pericarditis	0.00	
	Anti-dsDNA antibody	0.00	
Psychosis	Antiphospholipid antibodies	0.00	0.69
	Anti-Sm antibody	0.00	
	Anti-SS-A antibody	0.00	
	Autoimmune hemolysis	0.00	
	Class III or IV lupus nephritis	0.00	
	Class II or V lupus nephritis	0.00	
	Delirium	0.00	
	Joint involvement	0.00	

	Leukopenia	0.00	
	Low C3 or low C4	0.00	
	Lupus colitis	0.00	
	Non-scarring alopecia	0.00	
	Oral ulcers	0.00	
	Pleural or pericardial effusion	0.00	
	Proteinuria	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Pulmonary hypertension	0.00	
	Female	0.00	
	Subacute cutaneous / discoid lupus	0.00	
	Thrombocytopenia	0.00	
	TMA	0.00	
	Transverse myelitis	0.00	
	Proteinuria	0.34	
	Antiphospholipid antibodies	0.20	
	Autoimmune hemolysis	0.11	
	TMA	0.09	
	Acute cutaneous lupus	0.00	
	Acute pericarditis	0.00	
	Anti-dsDNA antibody	0.00	
	Anti-Sm antibody	0.00	
	Anti-SS-A antibody	0.00	
	Class III or IV lupus nephritis	0.00	
	Class II or V lupus nephritis	0.00	
	Delirium	0.00	
	Fever	0.00	
Diffuse alveolar hemorrhage	Hemophagocytic syndrome	0.00	0.82
	Joint involvement	0.00	
	Leukopenia	0.00	
	Low C3 or low C4	0.00	
	Lupus colitis	0.00	
	Non-scarring alopecia	0.00	
	Oral ulcers	0.00	
	Pleural or pericardial effusion	0.00	
	Psychosis	0.00	
	Pulmonary hypertension	0.00	
	Seizure	0.00	
	Female	0.00	
	Subacute cutaneous / discoid lupus	0.00	
	Thrombocytopenia	0.00	
	Transverse myelitis	0.00	

	Proteinuria	0.63	
	Anti-SS-A antibody	0.36	
	Antiphospholipid antibodies	0.26	
	Anti-Sm antibody	0.23	
	Anti-dsDNA antibody	0.21	
	Diffuse alveolar hemorrhage	0.14	
	Seizure	0.08	
	Acute pericarditis	0.00	
	Autoimmune hemolysis	0.00	
	Class II or V lupus nephritis	0.00	
	Delirium	0.00	
	Hemophagocytic syndrome	0.00	
	Leukopenia	0.00	
Pulmonary hypertension	Non-scarring alopecia	0.00	0.72
	Oral ulcers	0.00	
	Psychosis	0.00	
	Female	0.00	
	Thrombocytopenia	0.00	
	Transverse myelitis	0.00	
	Fever	0.00	
	TMA	-0.03	
	Lupus colitis	-0.06	
	Joint involvement	-0.08	
	Subacute cutaneous / discoid lupus	-0.26	
	Pleural or pericardial effusion	-0.29	
	Low C3 or low C4	-0.31	
	Acute cutaneous lupus	-0.63	
	Class III or IV lupus nephritis	-0.66	
	Psychosis	0.22	
	Acute pericarditis	0.00	
	Anti-dsDNA antibody	0.00	
	Antiphospholipid antibodies	0.00	
	Anti-Sm antibody	0.00	
	Anti-SS-A antibody	0.00	
Seizure	Autoimmune hemolysis	0.00	0.91
	Class III or IV lupus nephritis	0.00	
	Class II or V lupus nephritis	0.00	
	Delirium	0.00	
	Fever	0.00	
	Hemophagocytic syndrome	0.00	
	Joint involvement	0.00	
	Leukopenia	0.00	

	Low C3 or low C4	0.00	
	Lupus colitis	0.00	
	Non-scarring alopecia	0.00	
	Oral ulcers	0.00	
	Pleural or pericardial effusion	0.00	
	Proteinuria	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Pulmonary hypertension	0.00	
	Female	0.00	
	Subacute cutaneous / discoid lupus	0.00	
	Thrombocytopenia	0.00	
	TMA	0.00	
	Transverse myelitis	0.00	
	Acute cutaneous lupus	0.00	
	Acute cutaneous lupus	0.32	
	Non-scarring alopecia	0.03	
	Oral ulcers	0.03	
	Acute pericarditis	0.00	
	Anti-dsDNA antibody	0.00	
	Antiphospholipid antibodies	0.00	
	Anti-Sm antibody	0.00	
	Anti-SS-A antibody	0.00	
	Autoimmune hemolysis	0.00	
	Class III or IV lupus nephritis	0.00	
	Class II or V lupus nephritis	0.00	
	Delirium	0.00	
	Fever	0.00	
	Hemophagocytic syndrome	0.00	0.75
	Leukopenia	0.00	
	Low C3 or low C4	0.00	
	Lupus colitis	0.00	
	Pleural or pericardial effusion	0.00	
	Proteinuria	0.00	
	Psychosis	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Pulmonary hypertension	0.00	
	Seizure	0.00	
	Female	0.00	
	Thrombocytopenia	0.00	
	TMA	0.00	
	Transverse myelitis	0.00	
	Joint involvement	-0.06	
Subacute cutaneous / discoid lupus			

	Autoimmune hemolysis	0.11	
	Acute cutaneous lupus	0.00	
	Acute pericarditis	0.00	
	Anti-dsDNA antibody	0.00	
	Antiphospholipid antibodies	0.00	
	Anti-Sm antibody	0.00	
	Anti-SS-A antibody	0.00	
	Class III or IV lupus nephritis	0.00	
	Class II or V lupus nephritis	0.00	
	Delirium	0.00	
	Fever	0.00	
	Hemophagocytic syndrome	0.00	
	Joint involvement	0.00	
	Leukopenia	0.00	
Thrombocytopenia	Low C3 or low C4	0.00	0.61
	Lupus colitis	0.00	
	Non-scarring alopecia	0.00	
	Oral ulcers	0.00	
	Pleural or pericardial effusion	0.00	
	Proteinuria	0.00	
	Psychosis	0.00	
	Diffuse alveolar hemorrhage	0.00	
	Pulmonary hypertension	0.00	
	Seizure	0.00	
	Female	0.00	
	Subacute cutaneous / discoid lupus	0.00	
	TMA	0.00	
	Transverse myelitis	0.00	
	Class III or IV lupus nephritis	0.69	
	Pleural or pericardial effusion	0.48	
	Anti-SS-A antibody	0.16	
	Seizure	0.08	
	Anti-dsDNA antibody	0.06	
	Fever	0.03	
	Acute pericarditis	0.00	
Transverse myelitis	Anti-Sm antibody	0.00	0.38
	Autoimmune hemolysis	0.00	
	Delirium	0.00	
	Hemophagocytic syndrome	0.00	
	Leukopenia	0.00	
	Low C3 or low C4	0.00	
	Lupus colitis	0.00	

Non-scarring alopecia	0.00
Oral ulcers	0.00
Proteinuria	0.00
Psychosis	0.00
Diffuse alveolar hemorrhage	0.00
Pulmonary hypertension	0.00
Female	0.00
Subacute cutaneous / discoid lupus	0.00
Thrombocytopenia	0.00
TMA	0.00
Acute cutaneous lupus	-0.25
Class II or V lupus nephritis	-0.34
Antiphospholipid antibodies	-0.46
Joint involvement	-0.49