### Supplementary Table 1. Comparison analyses between undetermined vs high-inflammation group and low-inflammation group

|                             | Undetermined | High-inflammation group | Low-inflammation group | \( P \) value \(^a\) | \( P \) value \(^b\) |
|-----------------------------|--------------|-------------------------|------------------------|----------------------|----------------------|
| No. of patients             | 41           | 25                      | 47                     | -                    | -                    |
| Age at onset, years         | 52±14        | 49±15                   | 50±14                  | 0.331                | 0.281                |
| Female                      | 29(71%)      | 19(76%)                 | 38(81%)                | 0.641                | 0.267                |
| Disease duration, months    | 51±52        | 53±33                   | 64±63                  | 0.142                | 0.006                |
| Attacks per patient-year    | 0.32±0.39    | 1.12±0.53               | 0.07±0.13              | 0.000                | 0.000                |
| Fever at disease onset      | 13(32%)      | 21(84%)                 | 10(21%)                | 0.000                | 0.267                |

**Clinical findings**

- **Myositis**
  - 28(68%) vs 15(60%) vs 29(62%)
  - \( P \) value \(^a\): 0.493, \( P \) value \(^b\): 0.519

- **Arthralgia**
  - 19(46%) vs 16(64%) vs 20(43%)
  - \( P \) value \(^a\): 0.163, \( P \) value \(^b\): 0.721

- **ILD**
  - 38(93%) vs 23(92%) vs 41(87%)
  - \( P \) value \(^a\): 1.000, \( P \) value \(^b\): 0.494

  - **HRCT pattern of ILD**
    - **NSIP**
      - 32(78%) vs 15(60%) vs 35(75%)
      - \( P \) value \(^a\): 0.116, \( P \) value \(^b\): 0.694
    - **OP**
      - 1(2%) vs 1(4%) vs 1(2%)
      - \( P \) value \(^a\): 1.000, \( P \) value \(^b\): 1.000
    - **NSIP/OP overlap**
      - 3(7%) vs 6(24%) vs 3(6%)
      - \( P \) value \(^a\): 0.072, \( P \) value \(^b\): 1.000
    - **UIP**
      - 2(5%) vs 1(4%) vs 2(4%)
      - \( P \) value \(^a\): 1.000, \( P \) value \(^b\): 1.000
    - **RPILD**
      - 4(10%) vs 9(36%) vs 4(9%)
      - \( P \) value \(^a\): 0.023, \( P \) value \(^b\): 1.000
    - **DM-like rashes**
      - 26(63%) vs 11(44%) vs 27(57%)
      - \( P \) value \(^a\): 0.123, \( P \) value \(^b\): 0.568
    - **Mechanic's hand**
      - 9(22%) vs 5(20%) vs 13(28%)
      - \( P \) value \(^a\): 0.851, \( P \) value \(^b\): 0.537
    - **Raynaud's phenomenon**
      - 7(17%) vs 2(8%) vs 6(13%)
      - \( P \) value \(^a\): 0.464, \( P \) value \(^b\): 0.570
    - **Serositis**
      - 10(26%) vs 12(48%) vs 20(46%)
      - \( P \) value \(^a\): 0.066, \( P \) value \(^b\): 0.061
### Antibodies

Subtypes of ARS

| Antibody | High Inflammation | Undetermined | p-value |
|----------|-------------------|--------------|---------|
| Anti-Jo-1| 19(46%)           | 16(64%)      | 0.163   |
| Anti-EJ  | 7(17%)            | 0(0%)        | 0.039   |
| Anti-PL-7| 5(12%)            | 9(36%)       | 0.022   |
| Anti-PL-12| 7(17%)           | 0(0%)        | 0.039   |
| Anti-OJ  | 3(7%)             | 0(0%)        | 0.283   |
| Anti-Ro52| 31(82%)           | 18(75%)      | 0.0535  |
| Anti-Ro60| 10(25%)           | 9(39%)       | 0.239   |
| Anti-La  | 3(8%)             | 5(11%)       | 0.0076  |
| Anti-Pm-scl| 2(5%)           | 3(12%)       | 0.369   |
| ACPA     | 2(5%)             | 5(21%)       | 0.095   |

### Treatments

| Treatment | High Inflammation | Undetermined | p-value |
|-----------|------------------|--------------|---------|
| Maintenance pred, mg/d | 11.1±6.1 | 8.5±5.3 | 0.069 |
| Cumulative DMARDs exposure ≥3 | 15(60%) | 12(26%) | 0.000 |
| Use of bDMARDs | 18(72%) | 9(19%) | 0.000 |
| Deaths | 1(4%) | 3(6%) | 1.000 |

Data are presented as mean±SD for continuous variables and number (frequency) for categorical variables. Missing data <5%

\[ ^a \text{High inflammation group vs Undetermined} \]

\[ ^b \text{Low inflammation group vs Undetermined} \]