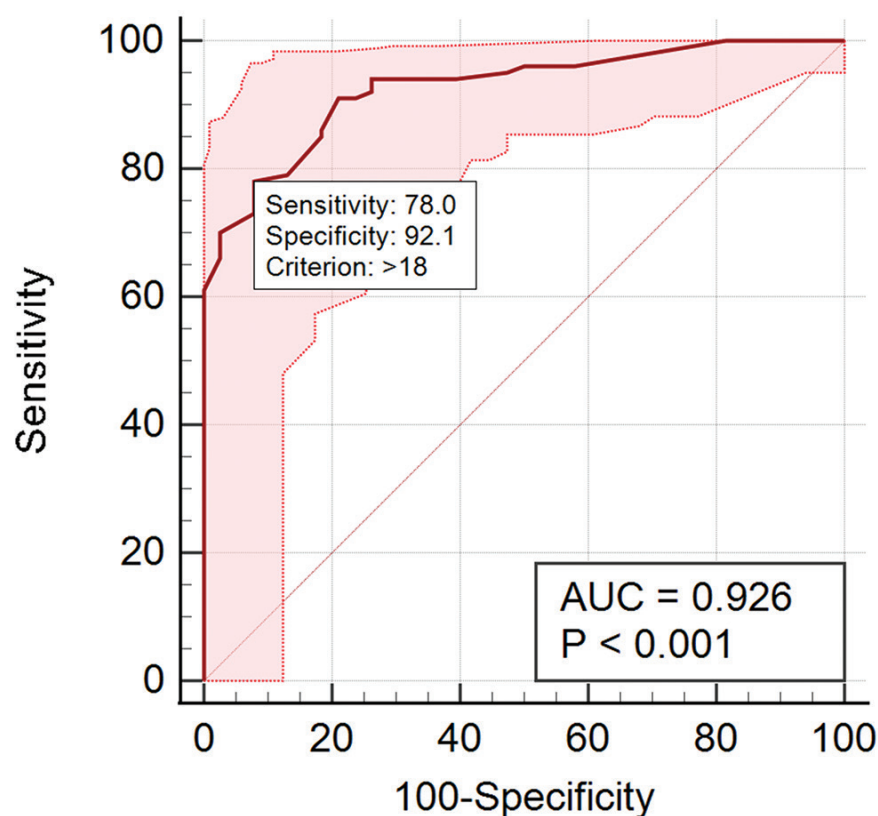


Supplementary Fig. S1. SWE-based scoring system.

Supplementary Table S1. Skin stiffness of target sites in ORD, lcSSc, and dcSSc patients.

	Young's modulus of skin (kPa)			<i>p</i>
	ORD	lcSSc	dcSSc	
Finger	61.0 (48.6–118.8)	222.3 (153.2–295.3)	211.1 (130.3–408.2)	<0.001
Hand	21.1 (15.8–27.7)	38.7 (25.5–52)	63.6 (32.7–105.2)	<0.001
Forearm	17.7 (10.4–22.9)	25.5 (17.2–39.7)	58.4 (33.8–110.9)	<0.001
Arm	17.4 (12.9–25.2)	20.3 (13.5–27.5)	51 (23.2–103.4)	<0.001
Thigh	11.6 (9.1–13.5)	13.5 (9.9–17.4)	19.5 (13.4–32.4)	<0.001
Leg	34.4 (25.5–47.0)	36.9 (22.2–49.9)	50.3 (30.7–76.6)	0.005
Foot	18.1 (13.0–26.1)	33.7 (20.4–45.5)	41.4 (21–75.9)	<0.001
Forehead	21.5 (15.6–32.9)	29.9 (21.2–39.1)	33.5 (23.8–52.5)	0.002
Chest	17.8 (10.2–25.1)	15.2 (12.1–31.2)	48.2 (31.8–95.9)	<0.001
Abdomen	11.9 (9.4–13.8)	12.9 (10.4–16.2)	25.8 (13.7–72.9)	<0.001

SSc: systemic sclerosis; lcSSc: limited SSc; dcSSc: diffused SSc; ORD: other rheumatic diseases.



Supplementary Fig. S2.

Supplementary Table S2. Criterion values and coordinates of the ROC curve (arm-dcSSc).

Criterion	Sensitivity	95% CI	Specificity	95% CI	+LR	-LR
≥9.4	100.00	93.0-100.0	0.00	0.0-7.3	1.00	
>10.2	100.00	93.0-100.0	6.12	1.3-16.9	1.07	0.00
>10.35	96.08	86.5-99.5	6.12	1.3-16.9	1.02	0.64
>13.6	96.08	86.5-99.5	28.57	16.6-43.3	1.35	0.14
>14.2	94.12	83.8-98.8	28.57	16.6-43.3	1.32	0.21
>14.3	94.12	83.8-98.8	30.61	18.3-45.4	1.36	0.19
>14.35	92.16	81.1-97.8	30.61	18.3-45.4	1.33	0.26
>15.35	92.16	81.1-97.8	36.73	23.4-51.7	1.46	0.21
>15.6	90.20	78.6-96.7	38.78	25.2-53.8	1.47	0.25
>15.65	90.20	78.6-96.7	40.82	27.0-55.8	1.52	0.24
>18	86.27	73.7-94.3	40.82	27.0-55.8	1.46	0.34
>18.2	84.31	71.4-93.0	42.86	28.8-57.8	1.48	0.37
>18.4	82.35	69.1-91.6	42.86	28.8-57.8	1.44	0.41
>19.15	82.35	69.1-91.6	48.98	34.4-63.7	1.61	0.36
>20.05	78.43	64.7-88.7	48.98	34.4-63.7	1.54	0.44
>22.15	78.43	64.7-88.7	63.27	48.3-76.6	2.14	0.34
>23.2	74.51	60.4-85.7	63.27	48.3-76.6	2.03	0.40
>23.9	74.51	60.4-85.7	67.35	52.5-80.1	2.28	0.38
>25.1	72.55	58.3-84.1	67.35	52.5-80.1	2.22	0.41
>25.35	72.55	58.3-84.1	71.43	56.7-83.4	2.54	0.38
>25.55	70.59	56.2-82.5	71.43	56.7-83.4	2.47	0.41
>28.8	70.59	56.2-82.5	79.59	65.7-89.8	3.46	0.37
>30.2	68.63	54.1-80.9	79.59	65.7-89.8	3.36	0.39
>30.9	66.67	52.1-79.2	81.63	68.0-91.2	3.63	0.41
>31.35	66.67	52.1-79.2	83.67	70.3-92.7	4.08	0.40
>34.05	60.78	46.1-74.2	83.67	70.3-92.7	3.72	0.47
>35.15	60.78	46.1-74.2	87.76	75.2-95.4	4.96	0.45
>38.95	56.86	42.2-70.7	87.76	75.2-95.4	4.64	0.49
>40.55	56.86	42.2-70.7	91.84	80.4-97.7	6.97	0.47
>41.1	54.90	40.3-68.9	91.84	80.4-97.7	6.73	0.49
>42.4	54.90	40.3-68.9	95.92	86.0-99.5	13.45	0.47
>43.3	50.98	36.6-65.2	95.92	86.0-99.5	12.49	0.51
>50.7	50.98	36.6-65.2	97.96	89.1-99.9	24.98	0.50
>51	49.02	34.8-63.4	97.96	89.1-99.9	24.02	0.52
>53.55	49.02	34.8-63.4	100.00	92.7-100.0		0.51
>322.8	0.00	0.0-7.0	100.00	92.7-100.0		1.00

Supplementary Table S3. Criterion values and coordinates of the ROC curve (chest-dc-SSc).

Criterion	Sensitivity	95% CI	Specificity	95% CI	+LR	-LR
≥4.9	100.00	93.0 – 100.0	0.00	0.0 – 7.3	1.00	
>9.2	100.00	93.0 – 100.0	14.29	5.9 – 27.2	1.17	0.00
>10.3	98.04	89.6 – 100.0	14.29	5.9 – 27.2	1.14	0.14
>10.4	98.04	89.6 – 100.0	16.33	7.3 – 29.7	1.17	0.12
>11	96.08	86.5 – 99.5	20.41	10.2 – 34.3	1.21	0.19
>11.6	96.08	86.5 – 99.5	22.45	11.8 – 36.6	1.24	0.17
>11.7	94.12	83.8 – 98.8	24.49	13.3 – 38.9	1.25	0.24
>15.9	94.12	83.8 – 98.8	55.10	40.2 – 69.3	2.10	0.11
>16.8	90.20	78.6 – 96.7	55.10	40.2 – 69.3	2.01	0.18
>19.5	90.20	78.6 – 96.7	65.31	50.4 – 78.3	2.60	0.15
>21	86.27	73.7 – 94.3	65.31	50.4 – 78.3	2.49	0.21
>22.9	86.27	73.7 – 94.3	67.35	52.5 – 80.1	2.64	0.20
>24.1	84.31	71.4 – 93.0	67.35	52.5 – 80.1	2.58	0.23
>26.6	84.31	71.4 – 93.0	71.43	56.7 – 83.4	2.95	0.22
>28.3	78.43	64.7 – 88.7	71.43	56.7 – 83.4	2.75	0.30
>29.2	78.43	64.7 – 88.7	73.47	58.9 – 85.1	2.96	0.29
>29.4	76.47	62.5 – 87.2	73.47	58.9 – 85.1	2.88	0.32
>31.4	76.47	62.5 – 87.2	77.55	63.4 – 88.2	3.41	0.30
>38.2	60.78	46.1 – 74.2	77.55	63.4 – 88.2	2.71	0.51
>40.6	60.78	46.1 – 74.2	81.63	68.0 – 91.2	3.31	0.48
>41.2	58.82	44.2 – 72.4	81.63	68.0 – 91.2	3.20	0.50
>41.3	58.82	44.2 – 72.4	83.67	70.3 – 92.7	3.60	0.49
>43.5	54.90	40.3 – 68.9	83.67	70.3 – 92.7	3.36	0.54
>44	54.90	40.3 – 68.9	89.80	77.8 – 96.6	5.38	0.50
>44.8	52.94	38.5 – 67.1	89.80	77.8 – 96.6	5.19	0.52
>45.9	52.94	38.5 – 67.1	91.84	80.4 – 97.7	6.49	0.51
>50.2	45.10	31.1 – 59.7	91.84	80.4 – 97.7	5.52	0.60
>50.3	45.10	31.1 – 59.7	93.88	83.1 – 98.7	7.37	0.58
>52.1	43.14	29.3 – 57.8	93.88	83.1 – 98.7	7.05	0.61
>52.4	43.14	29.3 – 57.8	95.92	86.0 – 99.5	10.57	0.59
>55.3	37.25	24.1 – 51.9	95.92	86.0 – 99.5	9.13	0.65
>60.1	37.25	24.1 – 51.9	97.96	89.1 – 99.9	18.25	0.64
>192.3	5.88	1.2 – 16.2	97.96	89.1 – 99.9	2.88	0.96
>197.7	5.88	1.2 – 16.2	100.00	92.7 – 100.0		0.94
>457.3	0.00	0.0 – 7.0	100.00	92.7 – 100.0		1.00

Supplementary Table S4. Criterion values and coordinates of the ROC curve (abdomen-deSSc).

Criterion	Sensitivity	95% CI	Specificity	95% CI	+LR	-LR
≥5	100.00	93.0-100.0	0.00	0.0-7.3	1.00	
>5	100.00	93.0-100.0	2.04	0.05-10.9	1.02	0.00
>5.1	98.04	89.6-100.0	2.04	0.05-10.9	1.00	0.96
>5.6	98.04	89.6-100.0	4.08	0.5-14.0	1.02	0.48
>6	94.12	83.8-98.8	4.08	0.5-14.0	0.98	1.44
>6.4	92.16	81.1-97.8	6.12	1.3-16.9	0.98	1.28
>6.5	90.20	78.6-96.7	6.12	1.3-16.9	0.96	1.60
>9.4	90.20	78.6-96.7	16.33	7.3-29.7	1.08	0.60
>9.5	88.24	76.1-95.6	16.33	7.3-29.7	1.05	0.72
>10.7	88.24	76.1-95.6	30.61	18.3-45.4	1.27	0.38
>10.8	86.27	73.7-94.3	30.61	18.3-45.4	1.24	0.45
>11.6	86.27	73.7-94.3	44.90	30.7-59.8	1.57	0.31
>12.2	82.35	69.1-91.6	44.90	30.7-59.8	1.49	0.39
>12.5	82.35	69.1-91.6	46.94	32.5-61.7	1.55	0.38
>12.6	80.39	66.9-90.2	48.98	34.4-63.7	1.58	0.40
>12.9	78.43	64.7-88.7	51.02	36.3-65.6	1.60	0.42
>13.3	78.43	64.7-88.7	57.14	42.2-71.2	1.83	0.38
>13.7	74.51	60.4-85.7	57.14	42.2-71.2	1.74	0.45
>14.2	74.51	60.4-85.7	61.22	46.2-74.8	1.92	0.42
>14.3	72.55	58.3-84.1	63.27	48.3-76.6	1.97	0.43
>15.4	72.55	58.3-84.1	71.43	56.7-83.4	2.54	0.38
>15.8	70.59	56.2-82.5	71.43	56.7-83.4	2.47	0.41
>16.1	70.59	56.2-82.5	75.51	61.1-86.7	2.88	0.39
>16.2	68.63	54.1-80.9	77.55	63.4-88.2	3.06	0.40
>16.6	66.67	52.1-79.2	77.55	63.4-88.2	2.97	0.43
>17.2	66.67	52.1-79.2	85.71	72.8-94.1	4.67	0.39
>17.8	62.75	48.1-75.9	85.71	72.8-94.1	4.39	0.43
>19	62.75	48.1-75.9	89.80	77.8-96.6	6.15	0.41
>19.3	60.78	46.1-74.2	89.80	77.8-96.6	5.96	0.44
>20	60.78	46.1-74.2	93.88	83.1-98.7	9.93	0.42
>20.9	58.82	44.2-72.4	93.88	83.1-98.7	9.61	0.44
>21.2	58.82	44.2-72.4	95.92	86.0-99.5	14.41	0.43
>22.5	56.86	42.2-70.7	95.92	86.0-99.5	13.93	0.45
>22.9	56.86	42.2-70.7	97.96	89.1-99.9	27.86	0.44
>23.5	54.90	40.3-68.9	97.96	89.1-99.9	26.90	0.46
>23.9	52.94	38.5-67.1	100.00	92.7-100.0		0.47
>411.4	0.00	0.0-7.0	100.00	92.7-100.0		1.00

Supplementary Table S5. Criterion values and coordinates of the ROC curve (finger-SSc).

Criterion	Sensitivity	95% CI	Specificity	95% CI	+LR	-LR
≥20.15	100.00	96.4-100.0	0.00	0.0-9.3	1.00	
>30.2	100.00	96.4-100.0	10.53	2.9-24.8	1.12	0.00
>32.3	99.00	94.6-100.0	10.53	2.9-24.8	1.11	0.095
>32.45	99.00	94.6-100.0	13.16	4.4-28.1	1.14	0.076
>37.25	98.00	93.0-99.8	13.16	4.4-28.1	1.13	0.15
>50.6	98.00	93.0-99.8	26.32	13.4-43.1	1.33	0.076
>51.1	97.00	91.5-99.4	26.32	13.4-43.1	1.32	0.11
>54.15	97.00	91.5-99.4	31.58	17.5-48.7	1.42	0.095
>54.9	96.00	90.1-98.9	31.58	17.5-48.7	1.40	0.13
>57.15	96.00	90.1-98.9	36.84	21.8-54.0	1.52	0.11
>57.7	95.00	88.7-98.4	36.84	21.8-54.0	1.50	0.14
>60.8	95.00	88.7-98.4	47.37	31.0-64.2	1.80	0.11
>61.05	94.00	87.4-97.8	47.37	31.0-64.2	1.79	0.13
>61.15	94.00	87.4-97.8	50.00	33.4-66.6	1.88	0.12
>66.25	93.00	86.1-97.1	50.00	33.4-66.6	1.86	0.14
>76.55	93.00	86.1-97.1	60.53	43.4-76.0	2.36	0.12
>92.15	91.00	83.6-95.8	60.53	43.4-76.0	2.31	0.15
>94.9	91.00	83.6-95.8	65.79	48.6-80.4	2.66	0.14
>102.4	88.00	80.0-93.6	65.79	48.6-80.4	2.57	0.18
>102.55	88.00	80.0-93.6	68.42	51.3-82.5	2.79	0.18
>107.7	87.00	78.8-92.9	68.42	51.3-82.5	2.76	0.19
>108.55	87.00	78.8-92.9	71.05	54.1-84.6	3.01	0.18
>116.9	83.00	74.2-89.8	71.05	54.1-84.6	2.87	0.24
>118.8	83.00	74.2-89.8	76.32	59.8-88.6	3.50	0.22
>123.3	80.00	70.8-87.3	76.32	59.8-88.6	3.38	0.26
>124.85	80.00	70.8-87.3	78.95	62.7-90.4	3.80	0.25
>134	76.00	66.4-84.0	78.95	62.7-90.4	3.61	0.30
>135.95	76.00	66.4-84.0	81.58	65.7-92.3	4.13	0.29
>144.35	74.00	64.3-82.3	81.58	65.7-92.3	4.02	0.32
>156.4	74.00	64.3-82.3	89.47	75.2-97.1	7.03	0.29
>191.45	61.00	50.7-70.6	89.47	75.2-97.1	5.79	0.44
>193.5	61.00	50.7-70.6	94.74	82.3-99.4	11.59	0.41
>195.45	60.00	49.7-69.7	94.74	82.3-99.4	11.40	0.42
>196.8	60.00	49.7-69.7	97.37	86.2-99.9	22.80	0.41
>228.55	43.00	33.1-53.3	97.37	86.2-99.9	16.34	0.59
>230.85	43.00	33.1-53.3	100.00	90.7-100.0		0.57
>799.25	0.00	0.0-3.6	100.00	90.7-100.0		1.00

Supplementary Table S6. Criterion values and coordinates of the ROC curve (hand-SSc).

Criterion	Sensitivity	95% CI	Specificity	95% CI	+LR	-LR
≥7.85	100.00	96.4-100.0	0.00	0.0-9.3	1.00	
>12.25	100.00	96.4-100.0	10.53	2.9-24.8	1.12	0.00
>13	97.00	91.5-99.4	10.53	2.9-24.8	1.08	0.29
>13.85	97.00	91.5-99.4	15.79	6.0-31.3	1.15	0.19
>14.15	96.00	90.1-98.9	15.79	6.0-31.3	1.14	0.25
>15.15	96.00	90.1-98.9	21.05	9.6-37.3	1.22	0.19
>15.25	95.00	88.7-98.4	21.05	9.6-37.3	1.20	0.24
>16.1	95.00	88.7-98.4	26.32	13.4-43.1	1.29	0.19
>16.2	94.00	87.4-97.8	26.32	13.4-43.1	1.28	0.23
>16.4	94.00	87.4-97.8	28.95	15.4-45.9	1.32	0.21
>16.95	92.00	84.8-96.5	28.95	15.4-45.9	1.29	0.28
>18.15	92.00	84.8-96.5	39.47	24.0-56.6	1.52	0.20
>19.35	90.00	82.4-95.1	39.47	24.0-56.6	1.49	0.25
>19.45	89.00	81.2-94.4	42.11	26.3-59.2	1.54	0.26
>19.5	89.00	81.2-94.4	44.74	28.6-61.7	1.61	0.25
>20.65	85.00	76.5-91.4	44.74	28.6-61.7	1.54	0.34
>21.45	85.00	76.5-91.4	52.63	35.8-69.0	1.79	0.29
>21.95	82.00	73.1-89.0	52.63	35.8-69.0	1.73	0.34
>22.35	82.00	73.1-89.0	55.26	38.3-71.4	1.83	0.33
>23.25	79.00	69.7-86.5	55.26	38.3-71.4	1.77	0.38
>25	79.00	69.7-86.5	65.79	48.6-80.4	2.31	0.32
>25.65	77.00	67.5-84.8	65.79	48.6-80.4	2.25	0.35
>25.7	77.00	67.5-84.8	68.42	51.3-82.5	2.44	0.34
>26.7	75.00	65.3-83.1	68.42	51.3-82.5	2.37	0.37
>28.4	75.00	65.3-83.1	78.95	62.7-90.4	3.56	0.32
>29.5	73.00	63.2-81.4	78.95	62.7-90.4	3.47	0.34
>29.65	73.00	63.2-81.4	81.58	65.7-92.3	3.96	0.33
>30.35	72.00	62.1-80.5	81.58	65.7-92.3	3.91	0.34
>30.55	72.00	62.1-80.5	84.21	68.7-94.0	4.56	0.33
>31.8	69.00	59.0-77.9	84.21	68.7-94.0	4.37	0.37
>31.95	69.00	59.0-77.9	86.84	71.9-95.6	5.24	0.36
>32.7	68.00	57.9-77.0	86.84	71.9-95.6	5.17	0.37
>33.1	68.00	57.9-77.0	89.47	75.2-97.1	6.46	0.36
>37.8	59.00	48.7-68.7	89.47	75.2-97.1	5.61	0.46
>38.55	59.00	48.7-68.7	92.11	78.6-98.3	7.47	0.45
>64.15	31.00	22.1-41.0	92.11	78.6-98.3	3.93	0.75
>65.9	31.00	22.1-41.0	94.74	82.3-99.4	5.89	0.73
>83.5	20.00	12.7-29.2	94.74	82.3-99.4	3.80	0.84
>89.35	20.00	12.7-29.2	97.37	86.2-99.9	7.60	0.82
>95.9	17.00	10.2-25.8	97.37	86.2-99.9	6.46	0.85
>96.5	17.00	10.2-25.8	100.00	90.7-100.0		0.83
>232.35	0.00	0.0-3.6	100.00	90.7-100.0		1.00

Supplementary Table S7. Criterion values and coordinates of the ROC curve (foot-SSc).

Criterion	Sensitivity	95% CI	Specificity	95% CI	+LR	-LR
≥9.35	100.00	96.4-100.0	0.00	0.0-9.3	1.00	
>9.35	100.00	96.4-100.0	2.63	0.07-13.8	1.03	0.00
>11.1	98.00	93.0-99.8	2.63	0.07-13.8	1.01	0.76
>11.45	98.00	93.0-99.8	7.89	1.7-21.4	1.06	0.25
>12.2	95.00	88.7-98.4	7.89	1.7-21.4	1.03	0.63
>12.5	95.00	88.7-98.4	21.05	9.6-37.3	1.20	0.24
>12.6	94.00	87.4-97.8	21.05	9.6-37.3	1.19	0.29
>13.4	94.00	87.4-97.8	31.58	17.5-48.7	1.37	0.19
>13.55	93.00	86.1-97.1	31.58	17.5-48.7	1.36	0.22
>13.8	93.00	86.1-97.1	34.21	19.6-51.4	1.41	0.20
>14.8	88.00	80.0-93.6	34.21	19.6-51.4	1.34	0.35
>15.3	88.00	80.0-93.6	36.84	21.8-54.0	1.39	0.33
>15.55	86.00	77.6-92.1	36.84	21.8-54.0	1.36	0.38
>15.7	85.00	76.5-91.4	39.47	24.0-56.6	1.40	0.38
>16.2	85.00	76.5-91.4	42.11	26.3-59.2	1.47	0.36
>16.35	84.00	75.3-90.6	42.11	26.3-59.2	1.45	0.38
>16.6	84.00	75.3-90.6	44.74	28.6-61.7	1.52	0.36
>17.2	83.00	74.2-89.8	44.74	28.6-61.7	1.50	0.38
>17.25	83.00	74.2-89.8	47.37	31.0-64.2	1.58	0.36
>18.55	80.00	70.8-87.3	47.37	31.0-64.2	1.52	0.42
>18.85	80.00	70.8-87.3	50.00	33.4-66.6	1.60	0.40
>19.85	76.00	66.4-84.0	50.00	33.4-66.6	1.52	0.48
>20.65	76.00	66.4-84.0	55.26	38.3-71.4	1.70	0.43
>21	74.00	64.3-82.3	55.26	38.3-71.4	1.65	0.47
>21.6	74.00	64.3-82.3	63.16	46.0-78.2	2.01	0.41
>22.9	73.00	63.2-81.4	63.16	46.0-78.2	1.98	0.43
>23.05	73.00	63.2-81.4	65.79	48.6-80.4	2.13	0.41
>23.85	72.00	62.1-80.5	65.79	48.6-80.4	2.10	0.43
>24	72.00	62.1-80.5	68.42	51.3-82.5	2.28	0.41
>25.1	70.00	60.0-78.8	68.42	51.3-82.5	2.22	0.44
>25.5	70.00	60.0-78.8	71.05	54.1-84.6	2.42	0.42
>25.6	69.00	59.0-77.9	71.05	54.1-84.6	2.38	0.44
>26.8	69.00	59.0-77.9	76.32	59.8-88.6	2.91	0.41
>26.95	68.00	57.9-77.0	76.32	59.8-88.6	2.87	0.42
>27	68.00	57.9-77.0	78.95	62.7-90.4	3.23	0.41
>29.25	60.00	49.7-69.7	78.95	62.7-90.4	2.85	0.51
>29.6	60.00	49.7-69.7	81.58	65.7-92.3	3.26	0.49
>30.5	59.00	48.7-68.7	84.21	68.7-94.0	3.74	0.49
>36.2	48.00	37.9-58.2	84.21	68.7-94.0	3.04	0.62
>37.55	48.00	37.9-58.2	86.84	71.9-95.6	3.65	0.60
>41.35	43.00	33.1-53.3	86.84	71.9-95.6	3.27	0.66
>42	43.00	33.1-53.3	89.47	75.2-97.1	4.08	0.64
>42.25	42.00	32.2-52.3	89.47	75.2-97.1	3.99	0.65
>42.4	42.00	32.2-52.3	92.11	78.6-98.3	5.32	0.63
>64.7	22.00	14.3-31.4	92.11	78.6-98.3	2.79	0.85
>67.2	22.00	14.3-31.4	94.74	82.3-99.4	4.18	0.82
>71.3	20.00	12.7-29.2	94.74	82.3-99.4	3.80	0.84
>72.95	20.00	12.7-29.2	97.37	86.2-99.9	7.60	0.82
>134.95	12.00	6.4-20.0	97.37	86.2-99.9	4.56	0.90
>135.95	12.00	6.4-20.0	100.00	90.7-100.0		0.88
>404.9	0.00	0.0-3.6	100.00	90.7-100.0		1.00