**Supplementary Table 3.** Proposed skin quality attributes and existing assessment tools

| **Attribute** | **Objective Assessments** | **Subjective Assessments** |
| --- | --- | --- |
| **Uneven pigmentation** | Dermaspectrophotometer (L\*, ITA), Colorimeters, Image analysis,88, 100 Chromameters, Mexameters, VISIA-CR, RCM, Antera 3D | MASI,101 MoPASI,102 MelasQOL103, 10-point Overall Hyperpigmentation91, 104 |
| **Redness** | Spectrocolorimetry,105 Dermapectrophotometer (a\*), OCT, Colorimeters, Counting telangiectasia, Image analysis,8, 106,107,, VISIA-CR, Antera 3D, Mexameter, biopsy and histochemical analysis108,109 | CEA110, 4-point Erythema Scale111 |
| **Dullness/sallowness** | Dermaspectrophotometer (L\*), Image analysis | IGA9, 10-point Skin Tone Evenness Scale112 |
| **Radiance** | Optical method,113 Glossymeter (shine), Dermaspectrophotometer (L\*) | C.L.B.T. Score,114 10-point Skin Tone Evenness Scale112 |
| **Oiliness/shine** | Sebumeter | OSSAS,115 OSIS115 |
| **Dryness** | TEWL, Corneometer, Aquaflex (barrier), Epsilon, MoistureMeter D, Tewameter (barrier) | IGA9, 10-point Dryness Scale116 |
| **Roughness** | Image analysis, 3D fringe projection, PRIMOS117, Antera 3D (texture), OCT (surface roughness), DermaTop, VISIA-CR | IGA,9 ASRS69, Tactile Roughness Scale118 |
| **Fine lines** | Image analysis,88 3D fringe projection, Antera 3D, SWIRL,119 VISIA-CR | AFLS120, 4-point Facial Wrinkle Scale,118 IGA,121 MFWS122 |
| **Coarse lines** | Image analysis,88 3D fringe projection, Antera 3D (lines filter), SWIRL,119 Silicone replicas, VISIA-CR | 4-point Facial Wrinkle Scale,118 SWIRL, IGA, MFWS122 |
| **Pores** | Image analysis, Antera 3D (pores), VISIA-CR | 5-point Pore Scale123 |
| **Crepiness** | VECTRA (volume analysis), Cutometer, Torquemeter, Ballistometer | IGA9 |
| **Hydration** | TEWL, Corneometer, Aquaflex (barrier), Epsilon, MoistureMeter D, Tewameter (barrier) | IGA,9 10-point Dryness Scale116 |
| **Laxity** | VECTRA, Cutometer, Torquemeter, Ballistometer, Indentation, Angular rotation techniques | IGA, FLR125 |
| **Elasticity/Pliability** | Cutometer, Torquemeter,124 Indentation, Angular rotation techniques, Ballistometer | FLR125 |
| **Firmness** | Cutometer, Indentation, Angular rotation techniques, Torquemeter, VECTRA |  |
| **Thickness** | OCT, Ultrasound, RCM |  |

**MASI:** Melasma Area and Severity Index; **MoPASI:** Mottled Pigmentation Area and Severity Index; **MelasQOL:** Melasma Quality of Life; **OCT:** Optical coherence tomography; **TEWL:** Transepidermal water loss; **RCM:** Reflectance confocal microscopy; **IGA:** 5-Point Investigator’s Global Assessment; **FLR**: Facial Laxity Rating scale; **SWIRL:** Stephens Wrinkle Analysis Raking Light; **AFLS:** Allergan Fine Line Scale; **ASRS:** Allergan Skin Roughness Scale; **PRIMOS:** Phaseshift Rapid In-vivo Measurement Of Skin; **CEA**: Clinician’s Erythema Assessment; **MFWS:** Modified Fitzpatrick Wrinkle Scale