Table S1 the comparison of parameters and reflectivity and transmission based on different metal-based moth-eye structure

| ARC Coating Material | Structure               | Fabrication Technology                  | $R$ (%) | $T$ (%) | Wavelength Range (nm) | Reference |
|----------------------|-------------------------|-----------------------------------------|---------|---------|------------------------|-----------|
| Au                   | Nanocone arrays         | Gold vapor deposition                  | 1%      | -       | 450-950                | [1]       |
| Au(25nm)             | Moth eye structure      | plasma-based approach                  | 7.2     | 48.2    | 550                    | [2]       |
| ZnO                  | Moth eye structure      | Aqueous solution method               | 1.46    | -       | 200-800                | [3]       |
| TiO$_2$              | Porous film             | Sol-gel based self-assembly and plasma-based approach | -       | 95      | 400-900                | [4]       |
| Without Ag           | Moth-eye structure      | Roll-to-Roll                           | 5.2     | 92.8    | 400-800                | This study |
| Ag (18nm)            | Moth-eye structure      | Plasma-enhanced magnetron sputtering   | 16.4    | 42.7    | 400-800                | This study |

Ref.:

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