A metric inequality

**5377:** Proposed by José Luis Díaz-Barrero, BarcelonaTech, Barcelona, Spain.

Show that if $A, B, C$ are the measures of the angles of any triangle $ABC$ and $a, b, c$ the measures of the length of its sides, then holds

$$\prod_{cyclic} \sin^{1/3}(A - B) \leq \sum_{cyclic} \frac{a^2 + b^2}{3ab} \sin(A - B).$$

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