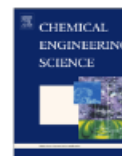




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## Energy efficiency limits in Photo-CREC-Air photocatalytic reactors



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### HIGHLIGHTS

- Macroscopic radiation balances are performed in a Photo-Air reactor.
- QY and PTEF are established for acetone and acetaldehyde degradation.
- Maximum QY and PTEF are shown to be affected by the organic molecule reactivity.
- Maximum PTEFs and QYs for acetaldehyde are close to the expected theoretical maximum.
- QYs and  $\eta_{abs}$  describe photon utilization and photon absorption reactor performance.

### GRAPHICAL ABSTRACT

