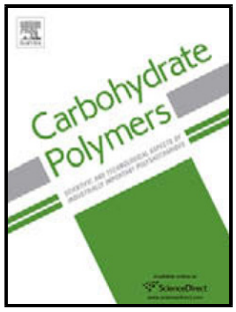

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PII: S0144-8617(18)30267-4
DOI: https://doi.org/10.1016/j.carbpol.2018.03.011
Reference: CARP 13361

To appear in:

Received date: 25-10-2017
Revised date: 8-3-2018
Accepted date: 8-3-2018

Please cite this article as: Lal, Sumit S., & Mhaske, Shashank T., AgBr and AgCl nanoparticle doped TEMPO-oxidized microfiber cellulose as a starting material for antimicrobial filter †.*Carbohydrate Polymers* https://doi.org/10.1016/j.carbpol.2018.03.011

AgBr and AgCl nanoparticle doped TEMPO-oxidized microfiber cellulose as a starting material for antimicrobial filter †

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Highlights:

- TEMPO-oxidized microfiber is prepared under bath sonicator at 20 kHz.
- 1:1 mole ratio of NaClO and OH gives highest 21.06% of carboxyl conversion.
- *In-situ* synthesis of silver halide (AgBr/AgCl) nanocubes on microfiber is prepared.
- AgBr@TO-MF and AgCl@TO-MF shows excellent antimicrobial activity.
- ICP-OES shown silver content leachs from AgBr@TO-MF and AgCl@TO-MF at around 0.1 ppm.