Correction to "Enhancement of Surface Runoff Quality Using Modified Sorbents"

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Supporting Information

T hroughout the study, the performance of two sorbents (red cedar and expanded shale) and two active compounds (TPA and AgNP) were compared. While reviewing the results, we detected a problem in the calculations of the aqueous phase TPA concentrations and loading of TPA on red cedar and shale. The TPA concentrations were mistakenly reported an order of magnitude lower than their actual concentrations. This resulted in an errata in calculation of TPA loadings on sorbent media. For example, 0.3, 0.6, and 0.9 mg of TPA loaded on to 1 g of red cedar actually should be 3, 6, and 9 mg of TPA loaded per 1 g of red cedar, respectively. The calculations for the second compound, AgNP, are unchanged.

Even though the loading values of TPA changed, the described trends of the experimental results remain the same. Also, the two antimicrobial loadings on red cedar were only directly compared in the cost comparison. Even though the TPA loading increased by an order of magnitude as a result of our errata, the cost analysis was not affected, and the TPA-amended wood chips are still more affordable in production than AgNP-amended wood chips The following are additions and corrections to the original manuscript.

CORRECTIONS TO MANUSCRIPT TEXT

For the entire manuscript, the reader should be aware that all TPA loadings that described as 0.36, 0.67, and 0.93 mg/g should instead be 3.6, 6.7, and 9.3 mg/g, respectively, for TPA, and all abbreviations of 0.3TPA-RC, 0.6TPA-RC, and 0.9TPA-RC should be 3TPA-RC, 6TPA-RC, 9TPA-RC, respectively.

Table 1. REVISED Amendment Loadings Achieved by
Exposing Red Cedar to Aqueous Solutions of Either TPA or
AgNPs

bioactive agent	concentrations (mg/L)	amendments (abbreviation)
TPA	260	3.6 mg/g TPA Red Cedar (3TPA-RC)
	720	6.7 mg/g TPA Red Cedar (6TPA-RC)
	1500	^a 9.3 mg/g TPA Red Cedar (9TPA-RC)
AgNP	20.8	0.33 mg/g AgNP Red Cedar (0.3AgNP-RC)
	52	^a 0.68 mg/g AgNP Red Cedar (0.6AgNP-RC)

^aMaximum possible loading.

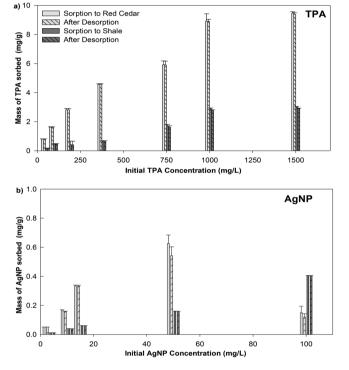


Figure 1. REVISED Polymer and nanoparticle loading capacity of sorbents. Mass sorbed during sorption experiments and mass retained after desorption for (a) TPA and (b) AgNPs on red cedar (RC) and expanded shale (ES). The data suggests that once amended the active compounds remain largely fixed on the substrate.

CORRECTIONS TO RESULTS AND DISCUSSION

(p 1611) Phase 1. Nanoparticle and Polymer Loading Capacity of Sorbents. Line 3: 0.93 ± 0.03 mg/g should be 9.3 \pm 0.3 mg/g. Line 6: 0.3 ± 0.03 should be 3.0 ± 0.3 .

(p 1614) Cost Analysis and Limitations. Line 9: "similar loadings (~0.6 mg/g)" should be "loading of 6 mg/g of TPA and 0.6 mg/g of AgNP, as both of these materials have similar treatment capability regarding PAHs, heavy metals, and *E. coli*".

The values of initial concentrations and mass of TPA sorbed in Figure 1 have been corrected.

The legend in Figure 2 has been corrected; 0.3TPA-RC, 0.6TPA-RC, and 0.9TPA-RC were changed to 3TPA-RC, 6TPA-RC, and 9TPA-RC.

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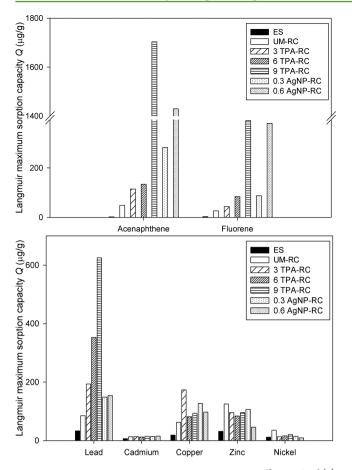


Figure 2. REVISED Langmuir maximum sorption coefficient *Q* of (a) PAHs and (b) heavy metals for expanded shale (ES), unmodified red cedar (UM-RC), and RC modified with TPA and AgNPs.

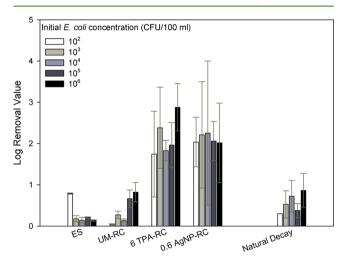


Figure 3. REVISED Deactivation of *E. coli* at increasing concentrations using unmodified and modified materials (6 TPA-RC and 0.6Ag-RC). Both the 6 TPA-RC and 0.6Ag-RC were significantly more effective at deactivating *E. coli* compared to the unmodified materials (p < 0.001). The data presented is an average of nine samples. Individual significant differences between the materials are indicated by the letters a and b in the figure.

The axis label in Figure 3 was corrected from 0.6TPA-RC to 6TPA-RC

CORRECTIONS TO SUPPORTING INFORMATION

All revised Supporting Information content is located in the Supporting Information file linked to this addition and correction. Text S1: Nanomaterial loading capacity on sorbents. The value 9.3 to 150 mg/L for TPA should be 10.8 to 1500 mg/L for TPA. In Figure S1, the values of equilibrium aqueous concentrations (mg/L) and equilibrium mass sorbed (mg/g) have been corrected. Caption of Figure S3: The values 0.3 TPA-RC should be 3 TPA-RC, 0.6 TPA-RC should be 6 TPA-RC, and 0.9 TPA-RC should be 3 TPA-RC, 0.6 TPA-RC should be 6 TPA-RC, on TPA-RC should be 3 TPA-RC, 0.6 TPA-RC should be 6 TPA-RC, and 0.9 TPA-RC should be 3 TPA-RC, 0.6 TPA-RC should be 6 TPA-RC, and 0.9 TPA-RC should be 3 TPA-RC.

ASSOCIATED CONTENT

Supporting Information

REVISED Experimental procedures in Text S1–S4, supporting graphics and images in Figures S1–S3, and additional information in Tables S1–S8. This material is available free of charge via the Internet at http://pubs.acs.org.