Supplementary materials for Evaluation of the absorption Ångström exponents for traffic and wood burning in the Aethalometer based source apportionment using radiocarbon measurements of ambient aerosol

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Figure S1: Residuals of $\text{BC}_{\text{TR}}/\text{BC}$ compared to $\text{EC}_f/\text{EC}$ ($\Delta\text{BC}_{\text{TR}}/\text{BC}$) as a function of $\text{BC}_{\text{TR}}/\text{BC}$ calculated with $\alpha_{\text{TR}} = 0.90$ and $\alpha_{\text{WB}} = 1.68$ and using the wavelength pair 470 nm and 950 nm. The brown and black dashes lines denote the residuals of $\text{BC}_{\text{TR}}/\text{BC}$ with respect to an error of $\alpha_{\text{WB}}$ and $\alpha_{\text{TR}}$ ($\Delta\alpha_{\text{WB}}$ and $\Delta\alpha_{\text{TR}}$), respectively, and the solid coloured lines represent the errors in $\text{BC}_{\text{TR}}/\text{BC}$ with respect to errors in both $\alpha_{\text{WB}}$ and $\alpha_{\text{TR}}$. 
Figure S2: Residuals of $\Delta B_{\text{TR}}/B_{\text{C}}$ compared to $E_{\text{CF}}/E_{\text{C}}$ ($\Delta B_{\text{TR}}/B_{\text{C}}$) as a function of $E_{\text{CF}}/E_{\text{C}}$ for $\alpha_{\text{TR}} = 0.8$ and $\alpha_{\text{WB}} = 1.4-2.2$ and using the wavelength pair 470 nm and 950 nm. Average $\Delta B_{\text{TR}}/B_{\text{C}}$ values for $E_{\text{CF}}/E_{\text{C}}$ bins of 0.1 are displayed. The dashed grey line denotes the best $\alpha$ pair ($\alpha_{\text{TR}} = 0.9$ and $\alpha_{\text{WB}} = 1.68$) as obtained in Sect. 3.2.1 and the dark and light grey shaded areas mark the $1\sigma$ (standard deviation) and $3\sigma$ of $\Delta B_{\text{TR}}/B_{\text{C}}$ per $E_{\text{CF}}/E_{\text{C}}$ bin for this best $\alpha$ pair.
Figure S3: Diurnal cycles of BC for the stations MAG, PAY and ZUR - 1h averages from 2009 to 2012. BC\textsubscript{WB} and BC\textsubscript{TR} were calculated using the best $\alpha$ pair ($\alpha$\textsubscript{TR} = 0.9 and $\alpha$\textsubscript{WB} = 1.68) as obtained in Sect. 3.2.1 and using the wavelength pair 470 nm and 950 nm. The split uncertainty between BC\textsubscript{WB} and BC\textsubscript{TR} ($\Delta$BC\textsubscript{TR}/BC) is max. 0.04 $\mu$g m$^{-3}$.

Figure S4: Diurnal cycles of BC for ZUR - 1h averages for winter week days from 2009 to 2012 calculated with different $\alpha$ combinations and using the wavelength pair 470 nm and 950 nm.