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2 ***Electronic Supporting Information***

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4 **On-site separation of Cr(VI) and Cr(III) in natural waters by**
5 **parallel cartridge ion-exchange columns**

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17 **Supplementary Information**

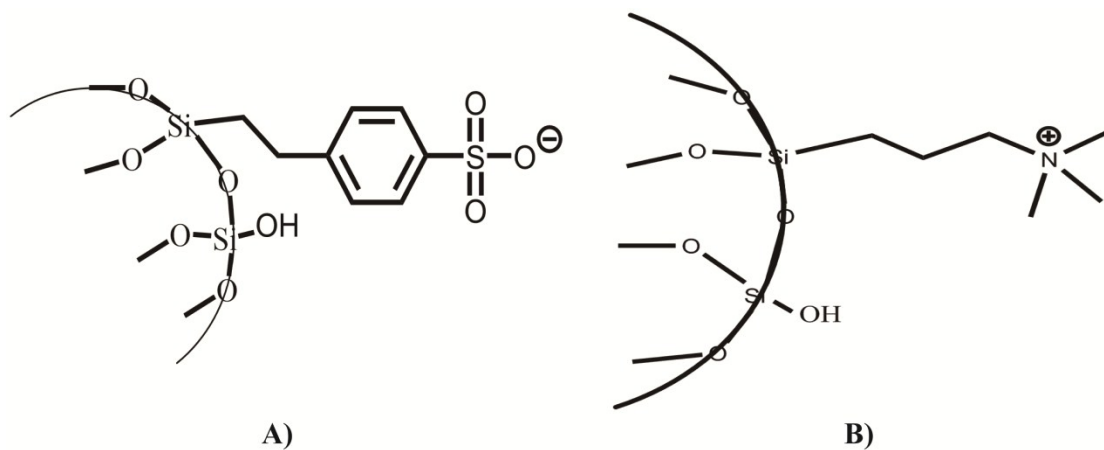
18 1. **Fig. S1.** Chemical structure of the ion exchange resin (A) SCX and (B) SAX.

19 2. **Fig. S2.** Sampling point figure of natural waters nearby a chemical factory

20 produced chrome salt in Huangshi city, China.

21 3. **Table S1.** The ions concentration of the lake waters, mg L⁻¹.

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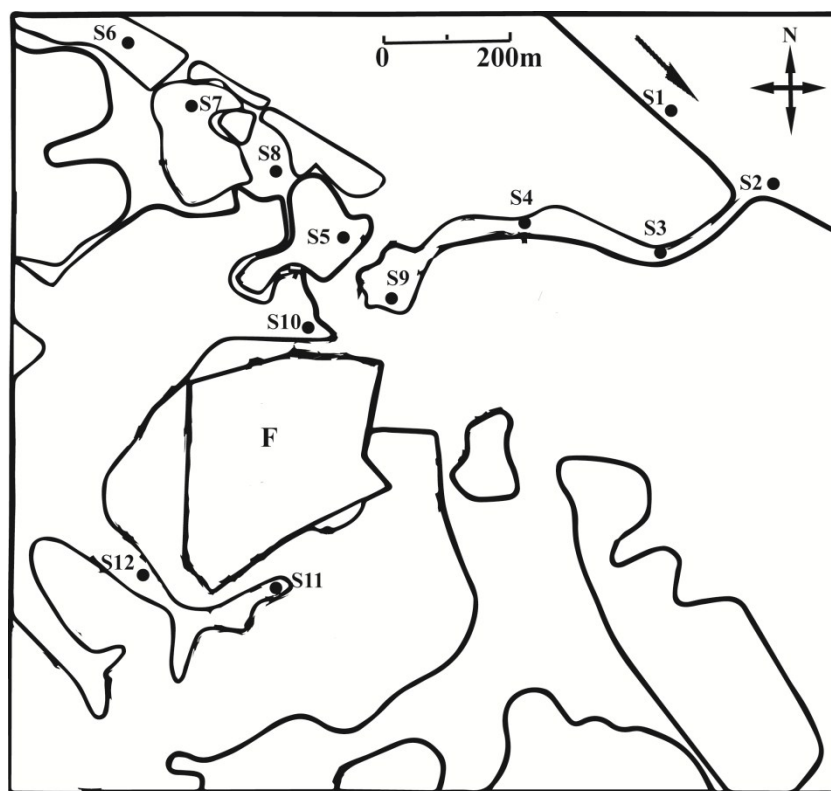


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Fig.S1 Chemical structure of the ion exchange resin (A) SCX,(B) SAX.

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27 **Fig.S2** Sampling point figure of natural waters nearby a chemical factory produced chrome salt
28 in Huangshi city, China. F: factory, S1: the water upper reaches of the Yangzi river; S2: Yangzi
29 river water nearby drain outlet of factory, S3: the river water flows through the drain pipe, S4:

30 the river water flows through the drain pipe, S5: pond water beside the pump station near the
 31 factory, S6: pond water in village near the factory, S7: pond water near the factory, S8: well
 32 water on local villager, S9: the river water flows through the drain pipe, S10: pond water beside
 33 the factory wall, S11: internal lake water beside the factory, S12: internal lake water beside the
 34 factory.

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36 **Table S2** The ions concentration of the lake waters, mg L⁻¹

| Sample | F ⁻ | Cl ⁻ | NO ₃ ⁻ | SO ₄ ²⁻ | Total anion | Na ⁺ | Mg ²⁺ | K ⁺ | Ca ²⁺ | Fe ⁿ⁺ | Total cation |
|--------|----------------|-----------------|------------------------------|-------------------------------|-------------|-----------------|------------------|----------------|------------------|------------------|--------------|
| S1 | 0.95 | 9.70 | 5.87 | 30.42 | 46.95 | 7.85 | 8.09 | 1.16 | 41.51 | 0.18 | 58.79 |
| S2 | 0.81 | 32.00 | DL | 43.37 | 76.18 | 16.64 | 8.94 | 5.58 | 51.81 | 0.23 | 83.2 |
| S3 | 1.98 | 188.37 | 1.86 | 166.37 | 358.57 | 56.13 | 20.18 | 25.93 | 114.16 | 0.54 | 216.94 |
| S4 | 1.75 | 210.49 | 2.28 | 144.16 | 358.68 | 72.69 | 15.87 | 33.63 | 107.22 | 0.51 | 229.92 |
| S5 | 1.48 | 21.16 | 1.97 | 74.59 | 99.19 | 16.57 | 10.05 | 3.42 | 54.10 | 0.24 | 84.38 |
| S6 | 0.59 | 5.74 | 0.66 | 17.37 | 24.35 | 10.84 | 7.40 | 1.90 | 50.58 | 0.22 | 70.94 |
| S7 | 1.51 | 28.31 | 2.88 | 70.18 | 102.88 | 22.83 | 8.29 | 4.45 | 65.23 | 0.28 | 101.08 |
| S8 | 0.50 | 12.70 | 6.97 | 28.07 | 48.24 | 8.32 | 8.32 | 1.06 | 43.51 | 0.19 | 61.4 |
| S9 | 1.59 | 143.77 | 3.05 | 113.11 | 261.52 | 56.40 | 12.20 | 24.29 | 93.96 | 0.40 | 187.25 |
| S10 | 1.90 | 100.02 | 3.27 | 120.73 | 225.92 | 37.75 | 14.17 | 13.99 | 90.91 | 0.40 | 157.22 |
| S11 | 1.67 | 10.67 | 0.43 | 133.09 | 145.86 | 50.13 | 18.27 | 3.16 | 67.60 | 0.29 | 139.45 |
| S12 | 1.66 | 13.63 | 0.46 | 149.28 | 165.02 | DL | 14.34 | 3.12 | 42.70 | 0.18 | 60.34 |

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