**Response to Reviewers**

We thank you very much for the evaluation of our work entitled “**Chromium (VI) removal from aqueous solutions using a polyethylenimine - epichlorohydrin resin”** and for your comments.

Concerning your comments:

1. Experimental section  
   Page 3, line 77-79, sentence: „The Cr(VI)-solutions were prepared by dilution of a stock K2Cr2O7 solution (Sigma-Aldrich analytical grade reagent) with bi-distilled water. The pH of the solutions was adjusted using HCl and NaOH“. Should be moved before description of isotherm experiments.

Response: Sentence moved.

1. Why experiments in absence of background electrolyte were performed using solutions pre-adjusted at pH 2 to 7, and those in presence using solutions pre-adjusted pH 3 and 6?

Response: The pH of the solutions influences the chromium species present and consequently their uptake by the sorbents. According to the literature, Cr(VI) is present in solutions of pH > 6 in the form of CrO42- ions. At lower pH values, the Cr(VI) is present either as HCrO4- or as Cr2O72- depending on its concentration. Selecting for the experiments in presence of background electrolytes solutions of pre-adjusted pH 3 and 6, we aimed at the investigation of the sorbent behavior close to the lower and upper end of the pH region used for the sorption tests in absence of background electrolyte.

1. For the regeneration experiments, the authors need to indicate the amount of Cr (VI) loaded to the resin.

Response: The resin was loaded with the maximum possible quantity of Cr (427 mg g-1 for pH 3; s. Table I). Clarifying improvements were introduced in the text of the experimental section and the results.

1. Page 5, line 138, the authors wrote: „The highest chromium uptake by the two sorbents....“, however, in the experimental section, only one resin is reported as adsorbent. To revise

Response: Corrected.

1. Page 6, lines 148 and 160: resins?

Response: Corrected.

1. Page 7, lines 181-182: The authors stated: „During Cr-uptake, a change in the color of the resins (from yellowish to black) was observed.“ Question: At all pH values? Change of color means?

Response: At all pH values. This was the reason why we suspected a possible chromium reduction and started the relevant investigation. “at all pH values” was introduced in the text of the Results and Discussion.

1. Page 9, lines 212-216, sentence: In this way, when Cr is octahedrically coordinated (Cr(III)), the pre-edge peak is characterised by low intensity and large FWHM. On the other hand, when Cr is tetrahedrically coordinated (Cr(VI)),........“ is not clear.

Response: The pre-edge region of the NEXAFS spectrum provides information about the coordination of the chromium and consequently its oxidation state. A clarification was introduced in the text.

1. Pages 15-16, lines 336-338, sentence:“ This value is marginally above the characteristic range for physisorption (5-20 kJ mol-1) fact that could be taken as indication of the complex nature of the sorption process (chemi- and physisorption).“ Is not clear.

Response: The value of 21.42 kJ mol-1 is extremely close to the limits of the range characterizing the physisorption. Values above 20 kJ mol-1 are common for chemisorption.

1. I suggest to move discussion on characterization of Cr loaded resin after kinetics experiments.

Response: We believe that both sections describing the characterization of the Cr-loaded resin should remain at their initial position. The section related with the use of synchrotron radiation based techniques attempts the explanation of the color change of the resin after contacting the Cr(VI) solutions, whereas the SEM/EDS section indicates that we have to do with a process also taking place in the bulk of the sorbent grains and not only on their surface. The modeling section following the characterization has a different aim.

1. The authors need to explain, why regeneration tests were performed at pH 3?

Response: Regeneration in an acidic environment (pH 3) was selected because of the enhance sorption capacity of the sorbent observed in this pH range. The negative regeneration results observed did not encourage us to perform similar studies using solutions of higher pH values.