

Table 1 Bloom's (2003) five step sequential extraction procedure (Ramasamy et al., 2012)

	Fraction of Hg	Chemical Extraction method
Step 1	Water –soluble	1g of sediment was mixed with 25 mL of ultra pure water in a centrifuging tube and shaken for 18±2 hour in an end-over-end shaker at 30 rpm. Separate the extract from the solid residue by centrifugation at 3,000 rpm for 20 min. Centrifuged extracts were then filtered and 1 mL of 0.2 M BrCl was added. As a rinse step, the extraction vials containing the sediment residue were refilled with 20 mL of the same extractant, shaken vigorously to resuspend the sediment, re-centrifuged and filtered. The rinse was then added to the extract from the same sample and the combined sample diluted to 100 mL with ultrapure water.
Step 2	Human stomach acid soluble	To Step 1-residue add 25 mL 0.1 M CH <sub>3</sub> COOH + 0.01M HCl (pH= 2). Shake for 18±2h. Centrifuge extract as per Step 1. Again rinse with 20 mL of the same extractant. The detailed operation conditions were the same as those of step 1.
Step 3	Organo-chelated	The residue from the Step 2 was added with 25 mL of 1M KOH and centrifuged. Because the solution (extract) has high acid neutralizing capacity, 10 mL of 0.2 M BrCl was added. The detailed operation conditions were the same as those of step 1.
Step 4	Elemental mercury	The Step 3 residue was extracted with 25 mL of 12 M HNO <sub>3</sub> solution and then rinsed with another 20 mL HNO <sub>3</sub> solution. The detailed operation conditions were the same as those of step 1. But no filtration step was employed since the solution can destroy the filter paper.
Step 5	Mercuric sulfide	10 mL of conc. HCl was added to the sediment residue remaining in the vial. After swirling the sample to dislodge the sediment, 3 mL of conc. HNO <sub>3</sub> was added. Then the vials were loosely capped and kept in room temperature for 12 hours. Separate the extract from the solid residue by centrifugation at 3,000 rpm for 20 min and the final volume was made up to 50 ml using ultrapure water.