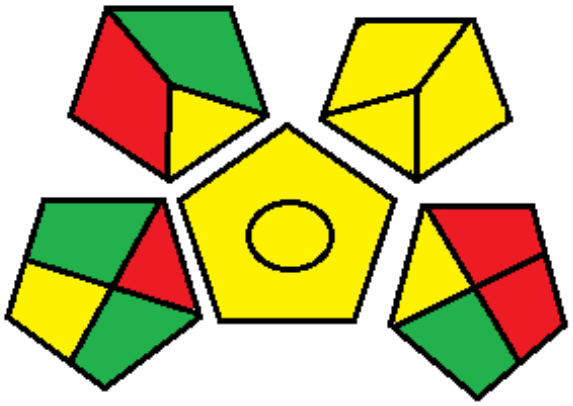
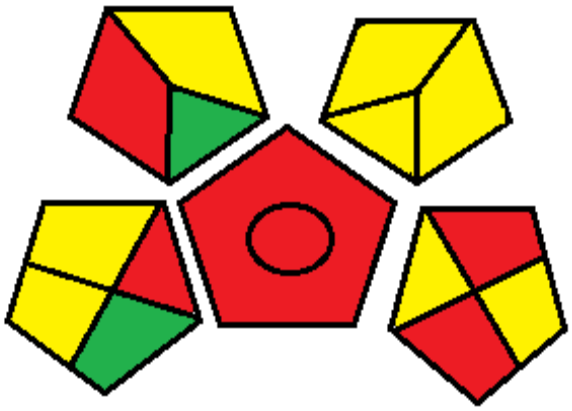
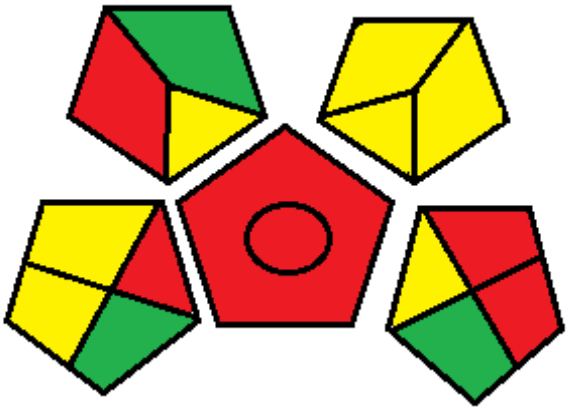
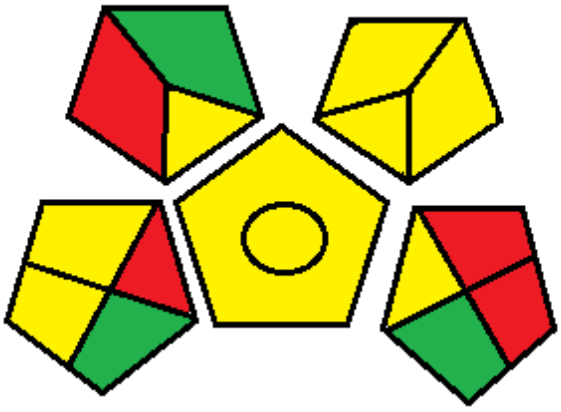
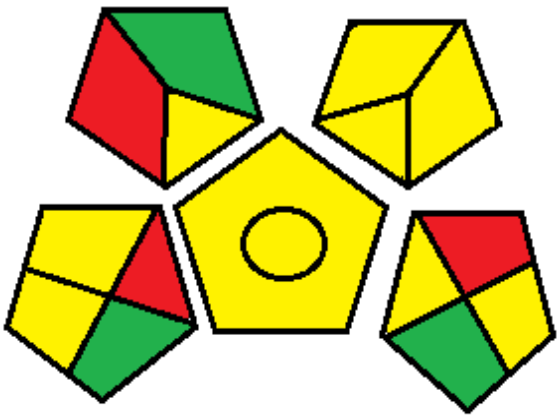
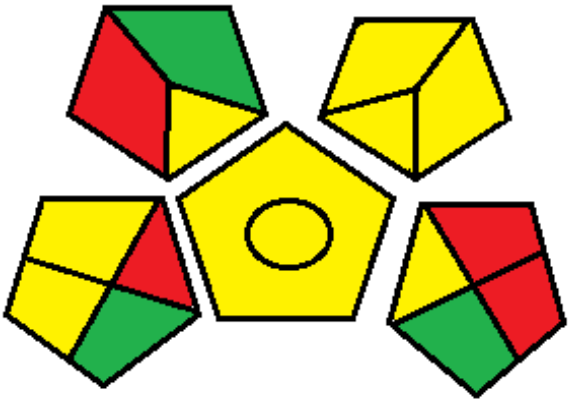
Electronic Supplementary Material (ESI) for Analytical Methods.

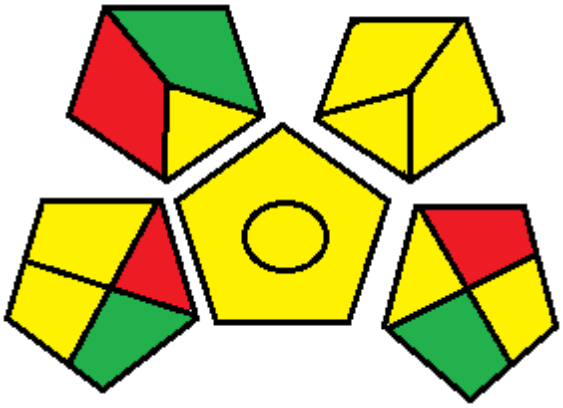
Supplementary file S1: Detailed descriptions of Green analytical procedure index GAPI parameters for analytical methods for HNBB analysis.

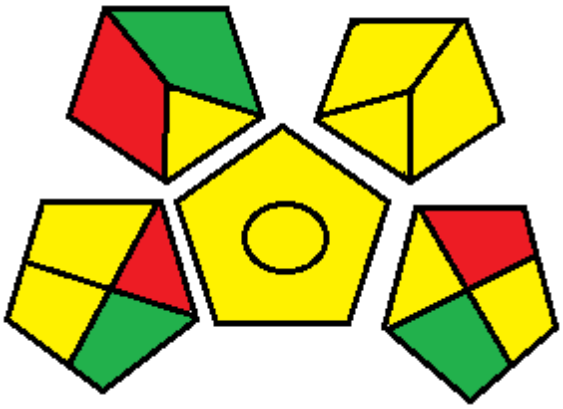
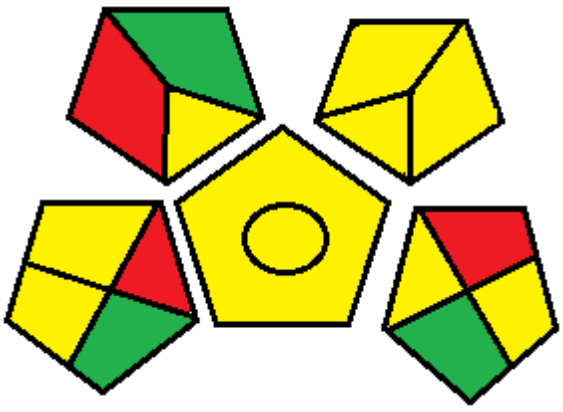
	Category*	Figure
1	**Method [16]** **<u>Sample preparation</u>** 1. Offline (Red) 2. None (Green) 3. Required (Yellow) 4. None (Green) 5. Simple procedure (yellow) 6. Micro-extraction (yellow) 7. Non-green solvents and reagents used (Red) 8. None (Green) **<u>Reagent and Solvents</u>** 9. 10-100 mL (yellow) 10. NFPA=2, Moderate toxicity (Yellow) 11. NFPA=3; high flammability (Yellow) **<u>Instrumentation</u>** 12. ≤1.5 Kwh per sample (yellow) 13. Emission of vapors to atmosphere (red) 14. >10 mL (Red) 15. Recycling possible (Green)	
2	**Method [17]** **<u>Sample preparation</u>** 1. Offline (Red) 2. None (Green) 3. Required (Yellow) 4. Samples must be iced (yellow) 5. Solid-phase extraction (red) 6. Nano-extraction (green) 7. Non-green solvents and reagents used (Red)	

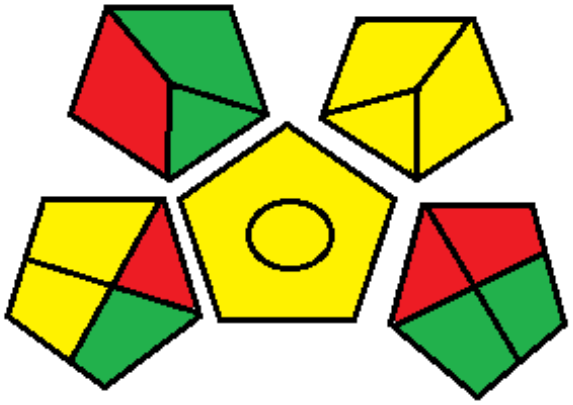
	8. Simple treatment (yellow) **Reagent and Solvents** 9. 10-100 mL (yellow) 10. NFPA=2, Moderate toxicity (Yellow) 11. NFPA=3; high flammability (Yellow) **Instrumentation** 12. ≤1.5 Kwh per sample (yellow) 13. Emission of vapors to atmosphere (red) 14. 1- 10 mL (yellow) 15. No treatment (Red)	
3	**Method [18]** **Sample preparation** 1. Offline (Red) 2. None (green) 3. Required (yellow) 4. Samples must be refrigerated (yellow) 5. Indirect (red) 6. Micro-extraction (yellow) 7. Non-green solvents and reagents used (red) 8. None (green) **Reagent and Solvents** 9. 10-100 mL (yellow) 10. NFPA=2, Moderate toxicity (yellow) 11. NFPA=3; high flammability (yellow) **Instrumentation** 12. ≤1.5 Kwh /sample (yellow) 13. Vapors emission (red) 14. 10 mL (red) >	

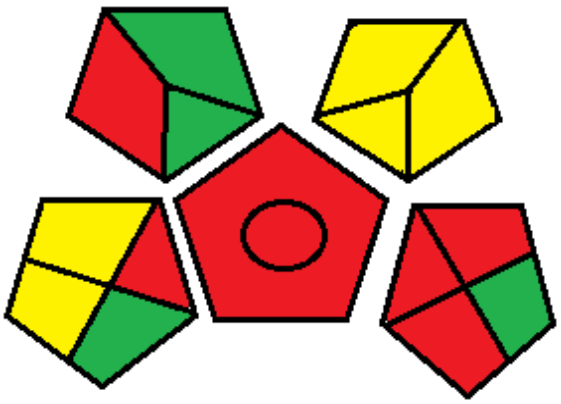
	15. Recycling possible (Green)	
4	**Method[19]** **<u>Sample preparation</u>** 1. Offline (Red) 2. None (green) 3. Required (yellow) 4. Samples must be refrigerated (yellow) 5. Simple procedure (yellow) 6. Micro-extraction (yellow) 7. Non-green solvents and reagents used (red) 8. None (green) **<u>Reagent and Solvents</u>** 9. 10-100 mL (yellow) 10. NFPA=2, Moderate toxicity (yellow) 11. NFPA=3; high flammability (yellow) **<u>Instrumentation</u>** 12. ≤1.5 Kwh / sample (yellow) 13. Vapors emission (red) 14. > 10 mL (red) 15. Recycling possible (Green)	
5	**Method[20]** **<u>Sample preparation</u>** 1. Offline (Red) 2. None (green) 3. Required (yellow) 4. Samples must be refrigerated (yellow) 5. Simple procedure (yellow) 6. Micro-extraction (yellow) 7. Non-green solvents and	

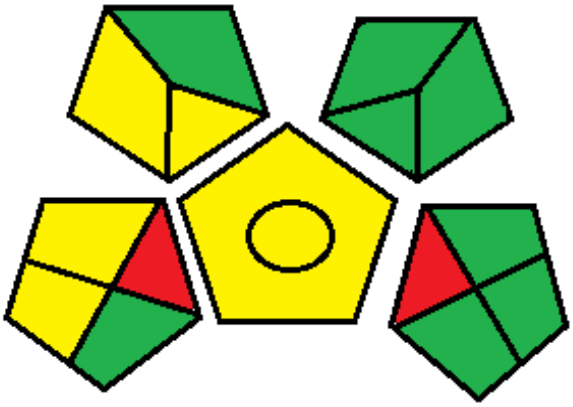
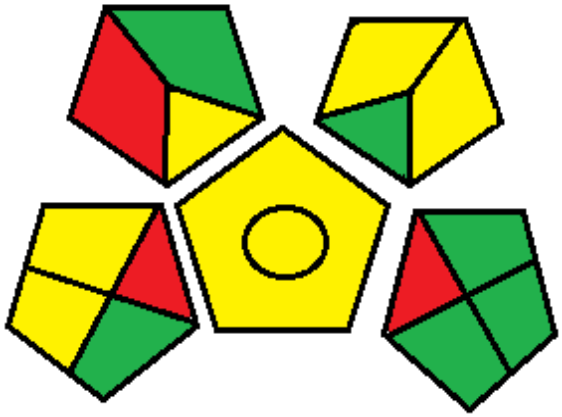
	reagents used (red) 8. None (green) **Reagent and Solvents** 9. 10-100 mL (yellow) 10. NFPA=2, Moderate toxicity (yellow) 11. NFPA=3; high flammability (yellow) **Instrumentation** 12. ≤1.5 Kwh / sample (yellow) 13. Vapors emission (red) 14. 1-10 mL (yellow) 15. Recycling possible (Green)	
6	**Method[21]** **Sample preparation** 1. Offline (Red) 2. None (green) 3. Required (yellow) 4. Samples must be refrigerated (yellow) 5. Simple procedure (yellow) 6. Micro-extraction (yellow) 7. Non-green solvents and reagents used (red) 8. None (green) **Reagent and Solvents** 9. 10-100 mL (yellow) 10. NFPA=2, Moderate toxicity (yellow) 11. NFPA=3; high flammability (yellow) **Instrumentation** 12. ≤1.5 Kwh / sample (yellow)	

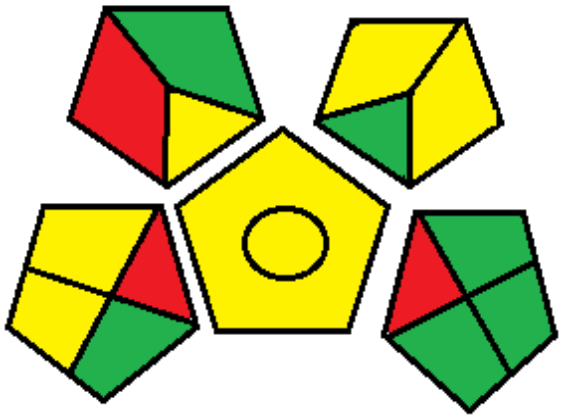
	13. Vapors emission (red) 14. >10 mL (red) 15. Recycling possible (Green)	
7	**Method [22]** **Sample preparation** 1. Offline (Red) 2. None (green) 3. Required (yellow) 4. Samples must be refrigerated (yellow) 5. Simple procedure (yellow) 6. Micro-extraction (yellow) 7. Non-green solvents and reagents used (red) 8. None (green) **Reagent and Solvents** 9. 10-100 mL (yellow) 10. NFPA=2, Moderate toxicity (yellow) 11. NFPA=3; high flammability (yellow) **Instrumentation** 12. ≤1.5 Kwh / sample (yellow) 13. Vapors emission (red) 14. 1- 10 mL (yellow) 15. Recycling possible (Green)	

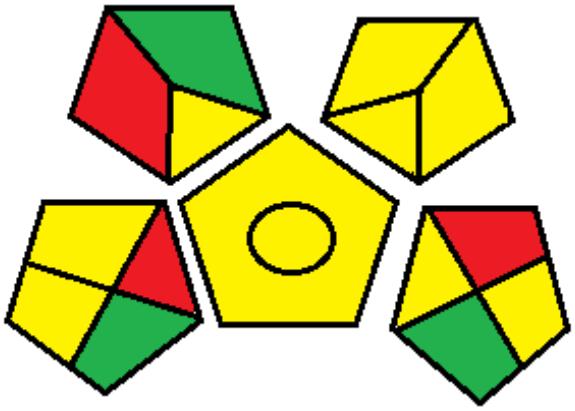
8	**Method[23]** **<u>Sample preparation</u>** 1. Offline (Red) 2. None (green) 3. Required (yellow) 4. Samples must be refrigerated (yellow) 5. Simple procedure (yellow) 6. Micro-extraction (yellow) 7. Non-green solvents and reagents used (red) 8. None (green) **<u>Reagent and Solvents</u>** 9. 10-100 mL (yellow) 10. NFPA=2, Moderate toxicity (yellow) 11. NFPA=3; high flammability (yellow) **<u>Instrumentation</u>** 12. ≤1.5 Kwh per sample (yellow) 13. Vapors emission (red) 14. 1-10 mL (yellow) 15. Recycling possible (Green)	
9	**Method[24]** **<u>Sample preparation</u>** 1. Offline (Red) 2. None (green) 3. Required (yellow) 4. Samples must be refrigerated (yellow) 5. Simple procedure (yellow) 6. Micro-extraction (yellow) 7. Non-green solvents and reagents used (red)	

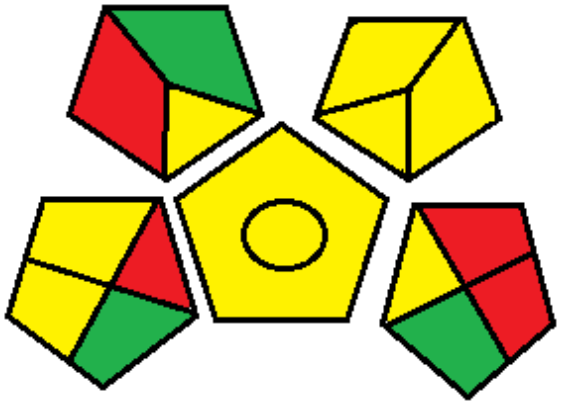
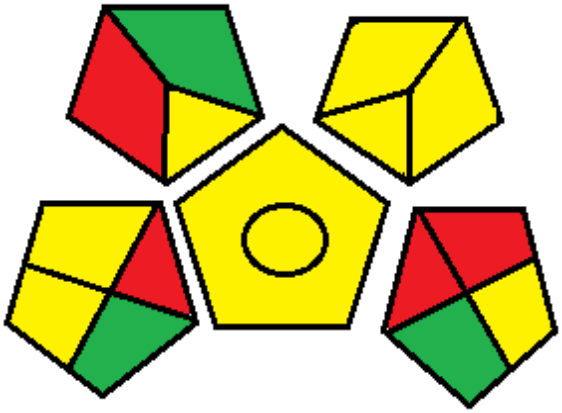
	8. None (green) **Reagent and Solvents** 9. 10-100 mL (yellow) 10. NFPA=2, Moderate toxicity (yellow) 11. NFPA=3; high flammability (yellow) **Instrumentation** 12. ≤1.5 Kwh / sample (yellow) 13. Vapors emission (red) 14. 1 -10 mL (yellow) 15. Recycling possible (Green)	
10	**Method [25]** **Sample preparation** 1. Offline (Red) 2. None (green) 3. Required (yellow) 4. Samples must be refrigerated (yellow) 5. Simple procedure (yellow) 6. Nano-extraction (green) 7. Non-green solvents and reagents used (red) 8. None (green) **Reagent and Solvents** 9. 10-100 mL (yellow) 10. NFPA=2, Moderate toxicity (yellow) 11. NFPA=3; high flammability (yellow) **Instrumentation** 12. ≥1.5 Kwh /sample (Red) 13. Emission of vapors to atmosphere (red)	

	14. <1 mL (green) 15. Recycling possible (Green)	
11	**Method [26]** **<u>Sample preparation</u>** 1. Offline (Red) 2. None (yellow) 3. Required (yellow) 4. Under normal conditions (yellow) 5. Complicated sample collection (red) 6. Nano-extraction (green) 7. Non-green solvents and reagents used (red) 8. None (green) **<u>Reagent and Solvents</u>** 9. 10-100 mL (yellow) 10. NFPA=2, Moderate toxicity (yellow) 11. NFPA=3; high flammability (yellow) **<u>Instrumentation</u>** 12. ≥1.5 Kwh / sample (Red) 13. Vapors emission (red) 14. < 1 mL (green)	

	15. No treatment (Red)	
12	**Method [27]** Aqueous method **Sample preparation** 1. Offline (Red) 2. None (green) 3. Required (yellow) 4. Under normal conditions (yellow) 5. simple sample collection (yellow) 6. micro-extraction (yellow) 7. Green solvent (yellow) 8. None (green) **Reagent and Solvents** 9. >10 mL (green) 10. NFPA health hazard=1 (green) 11. NFPA flammability score=0 (green) 12. ≥1.5 Kwh / sample (Red) **Instrumentation** 13. Hermetic sealing of analytical process (green) 14. mL (green) 15. Recycling possible (green) **Non-aqueous method[27]** **Sample preparation** 1. Offline (Red) 2. None (green) 3. Required (yellow) 4. Under normal conditions (yellow) 5. simple sample collection (yellow) 6. Micro-extraction (yellow) 7. Non-green solvents and	 

	reagents used (red) 8. None (green) **Reagent and Solvents** 9. >10 mL (green) 10. NFPA=2, Moderate toxicity (yellow) 11. NFPA=3; high flammability (yellow) **Instrumentation** 12. ≥1.5 Kwh / sample (Red) 13. Hermetic sealing of analytical process (green) 14. < 1mL (green) 15. Recycling is possible (green)	
13	**Method [28]**Non-aqueous method **Sample preparation** 1. Offline (Red) 2. None (green) 3. Required (yellow) 4. Under normal conditions (yellow) 5. simple sample collection (yellow) 6. Micro-extraction (yellow) 7. Non-green solvents and reagents used (red) 8. None (green) **Reagent and Solvents** 9. >10 mL (green) 10. NFPA=2, Moderate toxicity (yellow) 11. NFPA=3; high flammability (yellow) **Instrumentation** 12. ≥1.5 Kwh per sample (Red)	

	13. Hermetic sealing of analytical process (green) 14. < 1mL (green) 15. Recycling is possible (green)	
14	**Method [29]** **<u>Sample preparation</u>** 1. Offline (Red) 2. None (green) 3. Required (yellow) 4. Samples must be refrigerated (yellow) 5. Simple procedure (yellow) 6. Micro-extraction (yellow) 7. Non-green solvents and reagents used (red) 8. None (green) **<u>Reagent and Solvents</u>** 9. 10-100 mL (yellow) 10. NFPA=2, Moderate toxicity (yellow) 11. NFPA=3; high flammability (yellow) **<u>Instrumentation</u>** 12. ≤1.5 Kwh / sample (yellow) 13. Vapors emission (red) 14. 1 - 10 mL (yellow) 15. Recycling possible (Green)	

15	**Method [30]** **<u>Sample preparation</u>** 1. Offline (Red) 2. None (green) 3. Required (yellow) 4. Samples must be refrigerated (yellow) 5. Simple procedure (yellow) 6. Micro-extraction (yellow) 7. Non-green solvents and reagents used (red) 8. None (green) **<u>Reagent and Solvents</u>** 9. 10-100 mL (yellow) 10. NFPA=2, Moderate toxicity (yellow) 11. NFPA=3; high flammability (yellow) **<u>Instrumentation</u>** 12. ≤1.5 Kwh / sample (yellow) 13. Vapors emission (red) 14. > 10 mL (red) 15. Recycling possible (Green)	
16	**Method [31]** **<u>Sample preparation</u>** 1. Offline (Red) 2. None (green) 3. Required (yellow) 4. Samples must be refrigerated (yellow) 5. Simple procedure (yellow) 6. Micro-extraction (yellow) 7. Non-green solvents and reagents used (red)	

	8. None (green) **Reagent and Solvents** 9. 10-100 mL (yellow) 10. NFPA=2, Moderate toxicity (yellow) 11. NFPA=3; high flammability (yellow) **Instrumentation** 12. ≥1.5 Kwh /sample (Red) 13. Vapors emission (red) 14. 1- 10 mL (yellow) 15. Recycling possible (Green)	

*1-Collection, 2-Preservation, 3-Transport, 4-Storage, 5-Type of method: Direct or indirect, 6-Scale of extraction, 7-Solvents/ reagents used, 8-Additional treatments, 9-Amount, 10-Health hazard, 11-Safety hazard, 12-Energy, 13-Occupational hazard, 14-Waste, 15-Waste treatment