**Multifunctional Zn0.3Al0.4O4.5 Crystals: An Efficient Photocatalyst for Formaldehyde Degradation and EBT Adsorption**

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**Formaldehyde degradation system**

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**Figure S1:** System of photocatalytic formaldehyde degradation (a) HCHO gas injected into the flask, (b) 36% Formalin solution, (c) photocatalyst, (d) 18 W daylight lamp, (e) Formaldehyde gas detector.

**Table S1:** Degradation of HCHO versus time on various photo catalysts

|  |  |  |  |
| --- | --- | --- | --- |
| CatalystsRate of degradation (%) | ZnAlO NPs | TiO2 | P-25 TiO2 |
| Time (min) |  |  |  |
| 0 | 0 | 0 | 0 |
| 20 | 52 | 20 | 28 |
| 40 | 72 | 42 | 51 |
| 60 | 80 | 60 | 68 |
| 90 | 86 | 65 | 74 |
| 120 | 89 | 67 | 76 |

**Figure S2:** Effect of contact time on the adsorption of EBT on the ZnAlO NPs surface.