**INTEGRANO Case Study Information Sheet**

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| **Case Study Number and Title** | **5 Food packaging** |
| **Case Study Owner** | **BIU** |
| **Partners Involved in the Case Study and Their Role(s):** | **UNIMIB. Human Toxicity tests, Eco-tox tests** |

* **Case study aim, scope and goals. Briefly indicate the synthesis and incorporation plans, the applications of the NMs and NEPs, and define the life cycle stages of the nanomaterial:**
	+ **Case study objective:** developing a new food packaging (Cdots) to elongate the fresh produce shelf-life.
	+ **Case study strategy:** optimization of coating.
	+ **Life cycle stage to be addressed:** incorporation (coating), use phase.
* **Are there pre-existing data available for this case study?**
	+ yes previous life cycle stage(s) data like synthesisof Cdots
* **List of the (expected/addressed) relevant Key Performance Indicators (KPIs)** **for the case study), which imply experimental characterisation and tests:**
	+ **-**p-chem properties: phase composition, size, morphology of the coating, and crystallinity of nanoparticles; surface properties of nanoparticles (surface functional groups); Z-potential.
	+ Functionality tests: antibacterial activity.
	+ Human Toxicity tests:
	+ Eco-tox tests:
	+ Emission sampling campaign: -
* **List the relevant Key Decision factors (KDFs) (e.g. reagent concentrations, processing parameters, synthesis temperature) for the case study:**
	+ **Minimum and sufficient number of KDFs:** 2 KDFs.
	+ **What KDFs:** reaction (sonication) time, initial concentration of precursors
	+ **KDF is it a discrete or continuous variable?** KDF1 discrete, KDF2 discrete.
	+ **Unit of measurement of the KDF:** KDF1 – minutes , KDF2 – M (moles/liter) .
	+ **(for discrete) KDF levels:** low, medium, high.