

1. Drug release kinetic models

Table S1 CBD release kinetic of printlets

CBD Release Kinetic				
Release Kinetics	3D-GelatPekt	3D-AgarPekt	3D-HPMCgelt	3D-HPMCPek
Zero order (ZO) R^2	0.913	0.871	0.919	0.944
First order (FO) R^2	0.815	0.821	0.881	0.913
Higuchi (HG) R^2	0.732	0.701	0.771	0.833
Hixson (HX) (R^2)	0.847	0.837	0.896	0.926
Korsemeyer Peppas KP	R^2	0.971	0.939	0.9225
	n	1.68	2.00	1.362
Best fit model	KP	KP	KP	ZO/KP

Table S2 Apigenin release kinetic of printlets

Apigenin Release Kinetic				
Release Kinetics	3D-GelatPekt	3D-AgarPekt	3D-HPMCgelt	3D-HPMCPek
Zero order (ZO) R^2	0.898	0.985	0.899	0.975
First order (FO) R^2	0.784	0.953	0.929	0.917
Higuchi (HG) R^2	0.708	0.875	0.944	0.845
Hixson (HX) (R^2)	0.819	0.965	0.921	0.937
Korsemeyer Peppas KP	R^2	0.965	0.984	0.984
	n	1.79	1.13	0.713
Best fit model	KP	ZO/KP	KP	KP/ZO

Table S3 Luteolin release kinetic of printlets

Luteolin Release Kinetic				
Release Kinetics	3D-GelatPekt	3D-AgarPekt	3D-HPMCgelt	3D-HPMCPek
Zero order (ZO) R^2	0.858	0.962	0.879	0.926
First order (FO) R^2	0.732	0.915	0.917	0.842
Higuchi (HG) R^2	0.649	0.817	0.916	0.743
Hixson (HX) (R^2)	0.770	0.934	0.907	0.869
Korsemeyer Peppas KP	R^2	0.989	0.971	0.971
	n	2.17	1.28	0.734
Best fit model	KP	KP	KP	KP

Table S4 CBD release kinetic of moulded tablets

CBD Release Kinetic				
Release Kinetics	GelatPekt	AgarPekt	HPMCgelt	HPMCPek
Zero order (ZO) R ²	0.844	0.865	0.9535	0.930
First order (FO) R ²	0.787	0.824	0.972	0.864
Higuchi (HG) R ²	0.668	0.685	0.965	0.744
Hixson (HX) (R ²)	0.805	0.838	0.968	0.887
Korsemeyer Peppas KP	R ²	0.934	0.943	0.989
	n	2.261	2.200	1.634
Best fit model	KP	KP	KP	ZO / KP

Table S5 Apigenin release kinetic of moulded tablets

Apigenin Release Kinetic				
Release Kinetics	GelatPekt	AgarPekt	HPMCgelt	HPMCPek
Zero order (ZO) R ²	0.936	0.704	0.86	0.950
First order (FO) R ²	0.865	0.678	0.897	0.923
Higuchi (HG) R ²	0.833	0.492	0.970	0.823
Hixson (HX) (R ²)	0.888	0.686	0.886	0.934
Korsemeyer Peppas KP	R ²	0.935	0.993	0.996
	n	1.251	3.970	0.511
Best fit model	ZO & KP	KP	KP	ZO/KP

Table S6 Luteolin release kinetic of moulded tablets

Luteolin Release Kinetic				
Release Kinetics	GelatPekt	AgarPekt	HPMCgelt	HPMCPek
Zero order (ZO) R ²	0.900	0.972	0.958	0.927
First order (FO) R ²	0.782	0.959	0.952	0.902
Higuchi (HG) R ²	0.707	0.847	0.879	0.824
Hixson (HX) (R ²)	0.817	0.964	0.954	0.912
Korsemeyer Peppas KP	R ²	0.993	0.980	0.985
	n	1.914	1.167	1.110
Best fit model	KP	ZO/KP	KP	KP

2. The extraction process of *Artemisia annua* L. plant

A comparative evaluation between the alcoholic (80% v/v) and dealcoholized extracts revealed notable differences in phytochemical content. The dealcoholized extract showed a substantially higher concentration of chlorogenic acid (3541.40 ± 177.070 µg/g) compared to the alcoholic extract (1287.764 ± 64.387 µg/g), corresponding to an approximately 2.75-fold increase. Similarly, neochlorogenic acid content was moderately higher in the dealcoholized extract (70.880 ± 3.544 µg/g) than in the alcoholic extract (49.469 ± 2.473 µg/g), representing an

increase of about 1.4-fold. In contrast, the concentrations of apigenin and luteolin were comparable between the two extracts, with only marginal differences (<2%), likely within experimental variability.

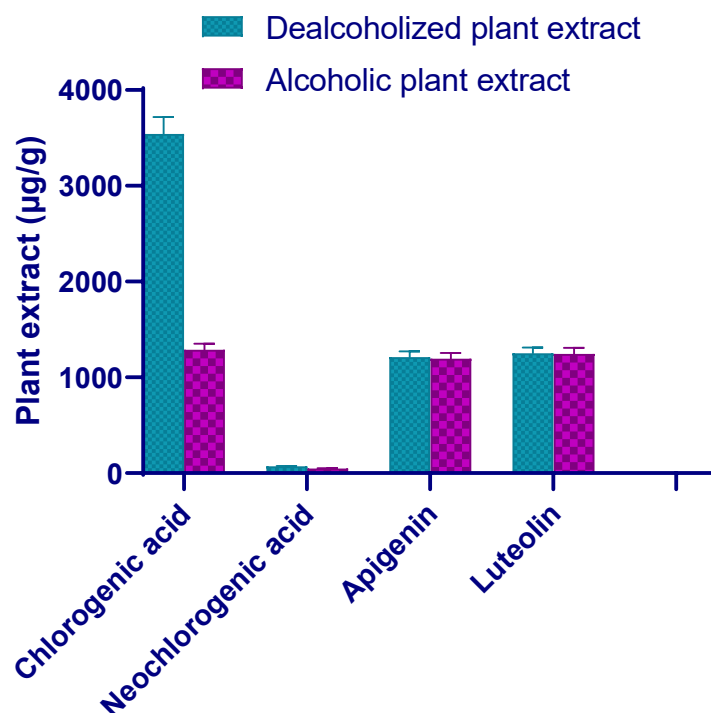


Figure S1 Comparative evaluation between the alcoholic and dealcoholized extracts

3. X-ray Computed Tomography

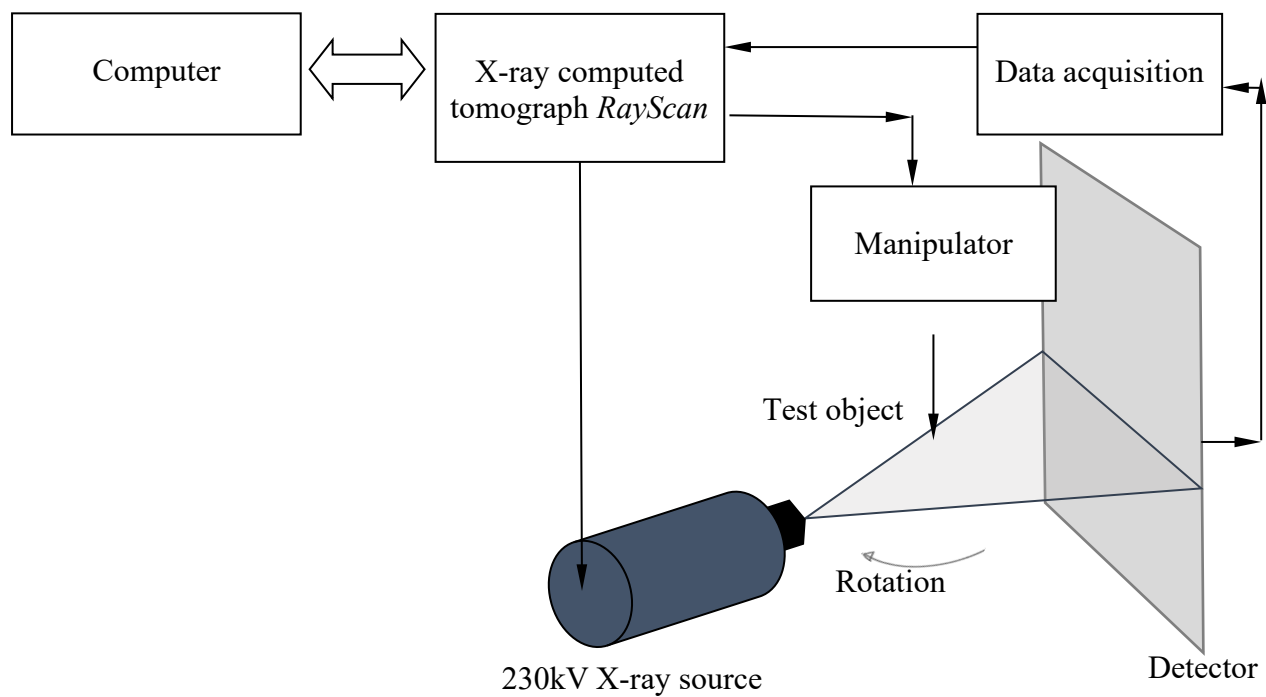


Figure S2 Representation of the X-ray computed tomography setup used

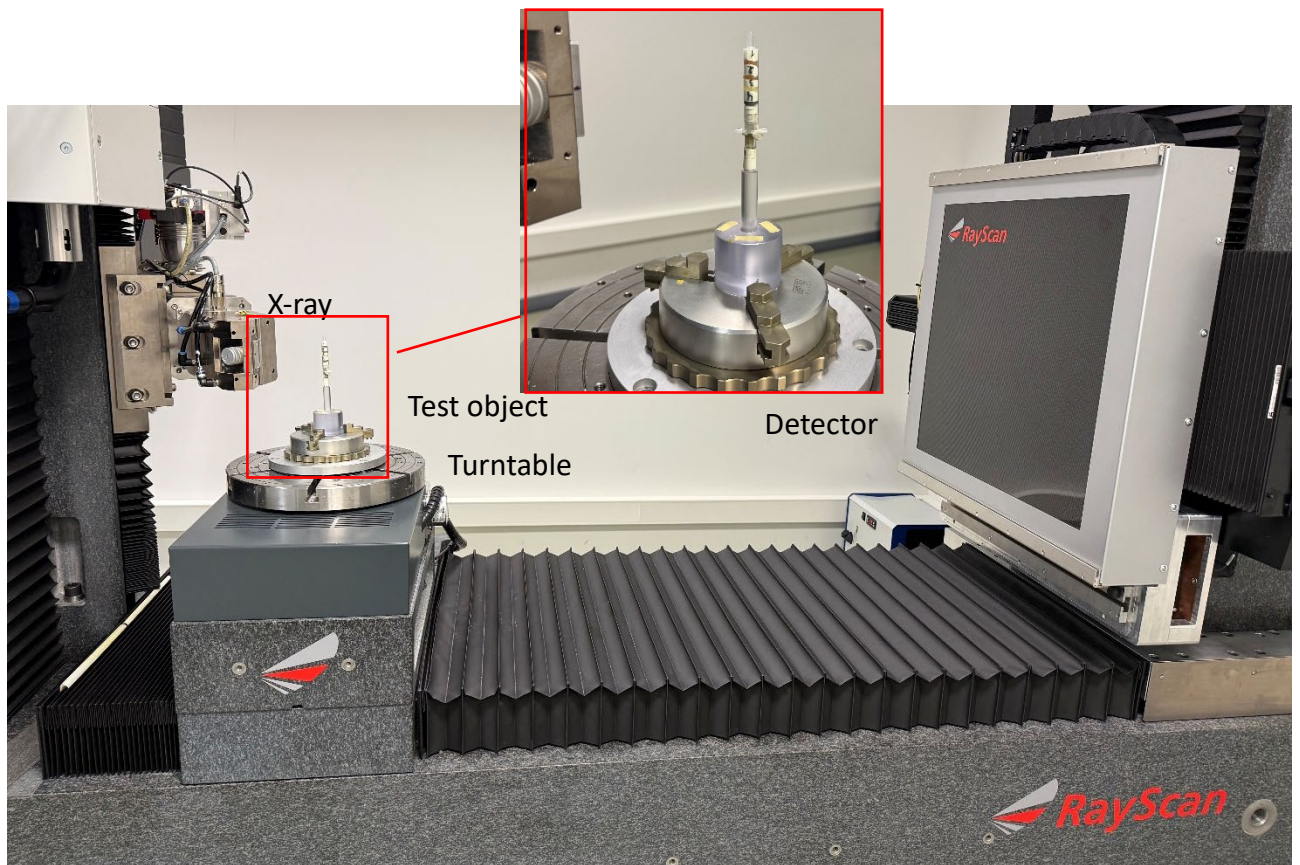


Figure S3 Photograph of the experimental setup