Project Number: Project 956851

Project Acronym: COLOTAN

Project title: Boosting advanced doctoral training in innovative colon targeting drugs

ESR 1: “Development of biodegradable polymer coatings for colon targeting”

Principal Investigator / PhD Researcher Prof. Dr. Guy Van den Mooter / Alen Damiani

Project Data Contact : Prof. Dr. Guy Van den Mooter: guy.vandenmooter@kuleuven.be

DATA MANAGEMENT PLAN

1. Data Summary

The objective of the project is to develop and characterize new polymers to target the drug delivery into the colon.

1.1. The expected measurable outcomes are:

1) Data generated to define the physical chemical characteristics of the synthesized intermediate and final products (polymers).

2) The final products will be characterize also using in vitro assays, to evaluate their biodegradability.

1.2. Specify the types and formats of data generated/collected

1.a. 1H NMR, 13C NMR (.top file)

1.b. GPC SEC (LCD file, pdf.)

1.c. ATR FTIR (txt.)

1.d. mDSC (001 file)

2.a. HPLC (pdf.)

1.3. Specify if existing data is being re-used (if any)

1.a. To verify the reproducibility of the synthetic methods and the stability of the products

1.b. To verify the reproducibility of the synthetic methods

1.c. To verify the reproducibility of the synthetic methods

1.d. To verify the reproducibility of the synthetic methods and the stability of the products

2.a.To compare with data from the commercial products

1.4. Origin of the data

1.a. Bruker Avance III HD 400

1.b. Malvern Panalytical's OMNISEC GPC

1.c. Bruker Vertex 70 FTIR ATR

1.d. DSC Q2000

2.a. VWR Hitachi Chromaster

1.5. State the expected size of the data (if known)

1.a. 300 MBs

1.b. 50 MBs

1.c. 100 MBs

1.d. 600 MBs

2.a. 50 MBs

1.6. Outline the data utility: to whom will it be useful

All data will be used by future researchers within the research units of the promoter (Guy Van den Mooter, Drug Delivery and Disposition) and his main collaborator in this project (Mario Smet, Polymer Chemistry and Materials). Furthermore, they will be useful for other researchers in polymer chemistry and pharmaceutical science world - wide.

2. FAIR data

2.1. Making data findable, including provisions for metadata

1.a. The data will be stored in the folder named “NMR”. The data will be defined by name which will contain the following nomenclature:

Name of the group where the material was synthesized (WDH or MS)_the author(AD)_the abbreviation indicating the material_the analysis(1h or 13c) _ the date(in the format ddmmyyyy)_the analysis number (letter of the alphabet)

1.b. The data will be stored in the folder named “GPC”. The data will be defined by name which will contain the following nomenclature:

Name of the group where the material was synthesized (MS)_the author(AD)_the abbreviation indicating the material_ the date(in the format ddmmyyyy)_the analysis number (letter of the alphabet)

1.c. The data will be stored in the folder named “ATR FTIR”. The data will be defined by name which will contain the following nomenclature:

Name of the group where the material was synthesized (MS or WDH)_the author(AD)_the abbreviation indicating the material_ the date(in the format ddmmyyyy)_the analysis number (letter of the alphabet)

1.d. The data will be stored in the folder named “DSC”. The data will be defined by name which will contain the following nomenclature:

Name of the group where the material was synthesized (MS or WDH)_the author(AD)_the abbreviation indicating the material_ the date(in the format ddmmyyyy)_the analysis number (letter of the alphabet)

2.a. The data will be stored in the folder named “HPLC”. The data will be defined by name which will contain the following nomenclature:

Name of the group where the material was synthesized (MS or WDH)_the author(AD)_the abbreviation indicating the material_ the abbreviation describing the experiment in vitro conditions_ the date(in the format ddmmyyyy)_the analysis number (letter of the alphabet)

2.2. Making data openly accessible

All the data (1.a-d., 2.a.) will be openly available to validate the results and accessible upon requirement. The data will be updated weekly and stored at the shared drive of Drug Delivery and Disposition research unit, namely “GBW-0042_FTB – FarmTech”, in the folder “alen_damiani”.

To access the data the following software will be necessary:

1.a. TopSpin

1.b. GPC Postrun Analysis (for LCD files), a pdf reader for (pdf.)

1.c. Excel

1.d. TA Universal Analysis

2.a. pdf reader

The software to analyze the data will not be provided as they are not open source and the license will be required.

2.3. Making data interoperable

There are no habits in exchanging postprocessing scripts in our society so far. The

scripts will assume a particular representation of the data in order to characterize the chemical-physical properties of the materials. The reusability may thus be limited. However, they could be useful for researchers interested in exploring a specific propriety of the materials or to make a comparison with their postprocessing script.

2.4. Increase data re-use (through clarifying licenses)

The data will be available as soon as possible upon the requirement. The data will be stored as raw data and in a processed form on a shared drive of Drug Delivery and Disposition research unit, namely “GBW-0042_FTB – FarmTech”, in the folder “alen_damiani”, with long-term repository period of time.

2.5. Allocation of resources

The raw data will be archived on the shared drive of Drug Delivery and Disposition research unit, namely “GBW-0042_FTB – FarmTech”, in the folder “alen_damiani”. The cost and the subscription for the shared drive will be completely covered by the Drug Delivery and Disposition research unit budget. It will possible to give to new researchers or approved external researchers a temporary account so that they can access and use these data, avoiding the time and difficulties associated with copying a large data set to external infrastructure. The data will be stored at long, undefined term period as a common practice in the Drug Delivery and Disposition research unit.

3. Data security

The data are stored on:

- the OneDrive – KU Leuven, which is a personal drive of Alen Damiani. The data are updated daily and will be kept for the duration of the Alen Damiani’s PhD. The data are not accessible exclusively to the owner of OneDrive account, namely Alen Damiani.

- the shared drive of Drug Delivery and Disposition research unit, namely “GBW-0042_FTB – FarmTech”, in the folder “alen_damiani”. The data are updated at weekly and will be kept at long term period of time. The data are not accessible to external unit members, and the access can be approved upon the official request to the PI Guy Van den Mooter

4. Ethical aspects

There are not any ethical or legal issues that can have an impact on data sharing.

SUMMARY TABLE 1

	Data type	Data format	Origin of data	Data size estimation	Data utility	Data sharing restrictions	Findability measures	Accessibility	Interoperability measures	Re-use measures	Storage during project	Long term storage
1.a.	1H NMR, 13C NMR	.topfile	Primary	300 MBs	Organic chemistry, material science	/	Universal nomenclature (see 2.1)	TopSpin	limited	Always available upon request	Shared drive "GBW-0042_FTB – FarmTech", in the folder "alen_damiani"	Shared drive "GBW-0042_FTB – FarmTech", in the folder "alen_damiani"
1.b.	GPC SEC	LCD file, pdf	Primary	50 MBs	material science, pharmaceutical science	/	Universal nomenclature (see 2.1)	GPC Postrun Analysis (for LCD files), a pdf reader for (pdf.)	limited	Always available upon request	Shared drive "GBW-0042_FTB – FarmTech", in the folder "alen_damiani"	Shared drive "GBW-0042_FTB – FarmTech", in the folder "alen_damiani"
1.c.	ATR FTIR	txt.	Primary	100 MBs	Organic chemistry, material science	/	Universal nomenclature (see 2.1)	Excel	limited	Always available upon request	Shared drive "GBW-0042_FTB – FarmTech", in the folder "alen_damiani"	Shared drive "GBW-0042_FTB – FarmTech", in the folder "alen_damiani"
1.d.	mDSC	001 file	Primary	600 MBs	material science, pharmaceutical science	/	Universal nomenclature (see 2.1)	TA Universal Analysis	limited	Always available upon request	Shared drive "GBW-0042_FTB – FarmTech", in the folder "alen_damiani"	Shared drive "GBW-0042_FTB – FarmTech", in the folder "alen_damiani"

2.a.	HPLC	pdf.	Primary	50 MBs	material science, pharmaceutical science	/	Universal nomenclature (see 2.1)	Pdf reader	limited	Always available upon request	Shared drive “GBW-0042_FTB – FarmTech”, in the folder “alen_damiani”	Shared drive “GBW-0042_FTB – FarmTech”, in the folder “alen_damiani”

HISTORY OF CHANGES		
Version	**Publication date**	**Change**
1.0		▪ Initial version