H2020-ITN THERACAT (765497)

Work Package Number	WP8	**Task Number**	T8.1	**Deliverable Number**	D8.1	**Lead Beneficiary**	EDI
Deliverable Title	Website completion						
Contractual Delivery Date	31/08/2018	**Nature**	Website, patents, filing, etc.			**Dissemination Level**	PU
Actual Delivery Date	19/09/2018	**Contributors**	EDI and IBEC				

Overview/Abstract

The THERACAT project website has been designed following two complementary objectives. First, an extranet dedicated area has been devoted to the **communication and dissemination of the project and its results to the general public**. Here we describe and promote - in plain English - the research being conducted within the framework of the project, with special emphasis on the concept of bio-orthogonal catalysis and how it can provide novel anti-cancer prodrugs, as well as how to test them in vitro and in vivo, among others. Second, we have developed an intranet area of the webpage to support the **network management** and contribute to have an effective **internal communication**. The access to the intranet is restricted to Supervisory Board members and fellows. In this area, a detailed schedule of activities and of the Network Plan are included, which are continuously updated. Moreover, a repository of documents is available and continuously updated including deliverables, dissemination, meeting minutes and presentations, progress reports, guidelines, and templates. The intranet will also be used for the submission of reports on the deliverables to the Coordinator. This will be supplemented by discussions at the Network Meetings, and bi-/multilateral exchanges of information by email or through videoconferences.

At this stage, both the intranet and extranet of the THERACAT webpage are completed and functional. Website is mainly fed by the coordinator (IBEC), in particular, by the project manager appointed to the THERACAT project, with contributions from all Beneficiaries.

Explanation for large delay in submitting deliverable

N/A

Led by

Name	Asier Unciti-Broceta	**Partner**	EDI	**Date**	12/09/2018

Reviewed by

Name	Lorenzo Albertazzi	**Partner**	IBEC	**Date**	19/09/2018

Document Control

Issue #	Date	Changed Pages	Cause of Change	Implemented by
N/A	N/A	N/A	N/A	N/A

1. THERACAT website

EXTRANET

Public access to the THERACAT webpage can be reached by following the link: https://theracat.eu/

This webpage link has been disseminated through the beneficiaries' contacts and has also been included within the host institutions portals.

The extranet version of the webpage has been divided in 7 different sections: 1) home & general information, 2) consortium, 3) project summary, 4) training events, 5) job offers within the network, 6) fellows joining the THERACAT network, and 7) dissemination activities implemented. Moreover, a calendar containing the events organised by the project beneficiaries (such as conferences, symposiums, etc.) has also been included.

All sections have been prepared in close collaboration with IBEC (as THERACAT coordinator). See below further details:

1) Home & general information (including project details, contact info and summary).

Bio-orthogonal catalysis for cancer therapy (THERACAT)

THERACAT is a Marie Sktodowska-Curie European Training Network (MSCA-ITN-ETN) aiming to train a new generation of researchers on the innovative topic of bio-orthogonal catalysis for cancer therapy

The development of novel cancer therapies is a major challenge for academic research and pharmaceutical industries. Although the recent progress in traditional treatments such as surgery and chemotherapy improved the clinical outcome of cancer patients, there is a strong need for new and effective approaches as well as for a new generation of young scientists trained to tackle these challenges from a multidisciplinary perspective. THERACAT establishes an international training programme focused on the development of catalysis-based approaches towards the cure of cancer. In this strategy nano- and micro-particles bearing a catalytic unit are delivered to the tumour site and subsequently non-active prodrugs are administered to the patient. The prodrugs are non-toxic and therefore generate limited side effects. Only at the tumour site the catalytic particles convert the prodrugs into active anticancer compounds that generate a local and strong effect, as single catalytic species can uncage a large number of drugs. This approach presents several advantages on the classical drug delivery paradigm including limited side effects and prolonged efficacy.

The researchers of the network will acquire a solid state-of-the-art multidisciplinary scientific training in this field of research, covering from basic science to industrial applications, which will enable them to generate new scientific knowledge of the highest impact. In addition, they will receive a practical training on transferable skills in order to increase their employability perspectives and to qualify them to access to responsibility job positions in the private and public sectors.

The final aim of the THERACAT network is to consolidate Europe as the world leader in novel catalysis-based approach for cancer therapy.

2) Consortium (including relevant information of each beneficiary and partner).

BENEFICIARIES	Dept./Division/Lab	Country	Scientist-in-charge
Institute for Bioengineering of Catalonia (IBEC)	Nanoscopy for nanomedicine group	Spain	Lorenzo Albertazzi
Technische Universiteit Eindhoven (TUE)	Macromolecular and Organic chemistry laboratory	Netherlands	Anja Palmans
Rijksuniversiteit Groningen (GRO)	Biomolecular Chemistry & Catalysis group	Netherlands	Gerard Roefles
Universität Basel (BAS)	Artificial Metalloenzymes laboratory	Switzerland	Thomas Ward
University of Edinburgh (EDI)	Innovative Therapeutics laboratory	United Kingdom	Asier Unciti-Broceta
Tel Aviv University (TAU)	Prof. Satchi-Fainaro's laboratory Dr. Amir group	Israel	Ronit Satchi-Fainaro & Roey Amir
TEVA Pharmaceutical Industries Ltd. (TEVA)		Israel	Bianca Avramovitch
Tagworks Pharmaceuticals BV (TAG)		Netherlands	Marc Robillard
Biogelx Limited (BGX)		United Kingdom	Laura Goldie

Partner organisations	Country
Cancer Research UK (CRUK)	United Kingdom
Fundación ESADE (ESADE)	Spain
Universitat Autònoma de Barcelona (UAB)	Spain

See below an example of more detailed information provided for each group:

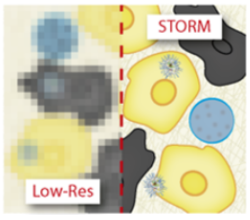
Beneficiary 1 (coordinator): IBEC

Institute for Bioengineering of Catalonia (IBEC)

Scientist in Charge: **Lorenzo Albertazzi**

The Institute for Bioengineering of Catalonia (IBEC) is a research institute covering most bioengineering fields, from basic research to medical applications, aiming to act as an international reference in this field. IBEC was established in 2005 by the Government of Catalonia, the University of Barcelona (UB) and the Technical University of Catalonia (UPC) and was awarded in 2015 with the prestigious Severo Ochoa Excellence Award by the Spanish Ministry of Economy and Competitiveness. IBEC is located at the Barcelona Science Park (PCB) and hosts around 200 researchers and technicians, which are part of its own staff or are associated to the UB and UPC.

Within IBEC, the Nanoscopy for nanomedicine group led by Dr. Lorenzo Albertazzi is an international group currently focused on the application of Super Resolution Microscopy to visualize and track self-assembled nanomaterials with therapeutic potential in living cells and tissues.



3) Project Summary.

Project Summary

The objective of the THERACAT network is to train through research a new generation of researchers in bio-orthogonal catalysis for cancer therapy.

THERACAT proposes new solutions for more effective and side effect-free chemotherapy. The key feature of THERACAT strategy is the use of bio-orthogonal catalysis to activate chemotherapeutic prodrugs selectively and efficiently in the tumor site. The development of a chemical arsenal of catalysts able to function in the complex biological media is therefore a main scientific target of the project.

In order to exploit the therapeutic potential of bio-orthogonal catalysis, several scientific and technical issues have to be addressed such as: i) the availability of metal-labile protective groups fully stable under physiological conditions; ii) highly stable and active catalysts system that can be implanted or targeted at the site of interest; and iii) a full understanding of in vivo catalysts localization, catalytic activity, toxicity and anticancer activity. Clearly these challenges exceed the field of chemistry and catalysis and require a broad expertise in a variety of fields ranging from chemistry and catalysis to biology and imaging. The THERACAT consortium comprises several renowned European players, both academic and industrial, in fields necessary for the development of bio-orthogonal therapies and combines the knowledge required starting from material synthesis, catalysis activation, in vitro and in vivo cancer cell studies up to in vivo animal studies to test the efficacy of the developed systems.

The research programme of the Network is organized into 4 research Work Packages (WPs):

> ***WP3 – Catalysts synthesis***. *In WP3, THERACAT will evaluate a number of transition-metal-based catalysts with the ultimate aim to activate selected, clinically relevant chemotherapeutic agents that are currently applied in cancer treatment therapies.*

> ***WP4 – Prodrugs design and synthesis.*** *The aims of WP4 are to expand the arsenal of therapeutics that can be activated by bio-orthogonal organometallic catalysts and to develop novel spectroscopy and microscopy methods that will enable to test the probe/prodrug activating capacity of the nanomaterials proposed in THERACAT by measuring single fluorescent events.*

> ***WP5 – In vitro delivery and imaging.*** *The pairs of catalytic materials and prodrugs developed in WP3 and WP4 will be evaluated in in vitro biological models.*

> ***WP6 – In vivo evaluation.*** *Main purpose of WP6 is to establish mCherry-labeled orthotopic models of cancer in mice. Then, we will evaluate the biodistribution of the newly synthesized prodyes and catalysts and the anticancer activity of the activated prodrugs in vivo.*

4) Training events.

Herein we have included a list of all the training events that will be organised along the project. Find below an example of the first training event; the place and dates will be specified once determined (currently under discussion).

Training events

1. Introducing the THERACAT Network & How to plan and start a PhD

Hosted by BAS (M12, 4 days) – *Coincides with Network Meeting 1*

- General introduction of the network and its scientific goals
- Introduction of the training programme
- Skills to start a successful PhD: time management, team work, ethics, intercultural, gender and diversity awareness
- Scientific communication: writing papers, the peer-review process, open science, oral and poster presentations
- ESR Meeting 1

Place: tbd

Attendance: ESRs mandatory

5) Job offers within the network.

All ESRs vacancies have been posted herein with the corresponding link to the EURAXESS job offer. Please see below some examples.

Jobs

GRO (ESR1)

https://euraxess.ec.europa.eu/jobs/322936

TAU (ESR2, ESR13)

https://euraxess.ec.europa.eu/jobs/322708

https://euraxess.ec.europa.eu/jobs/323035

TEVA (ESR3)

https://euraxess.ec.europa.eu/jobs/325162

6) Fellows joining the THERACAT network.

Once all ESRs will be recruited, we will include in this section a short bio and expertise description of each fellow.

7) Dissemination activities implemented.

This section will be fed once the recruitment will be finished and therefore the technical and training part of the project will actually start.

INTRANET

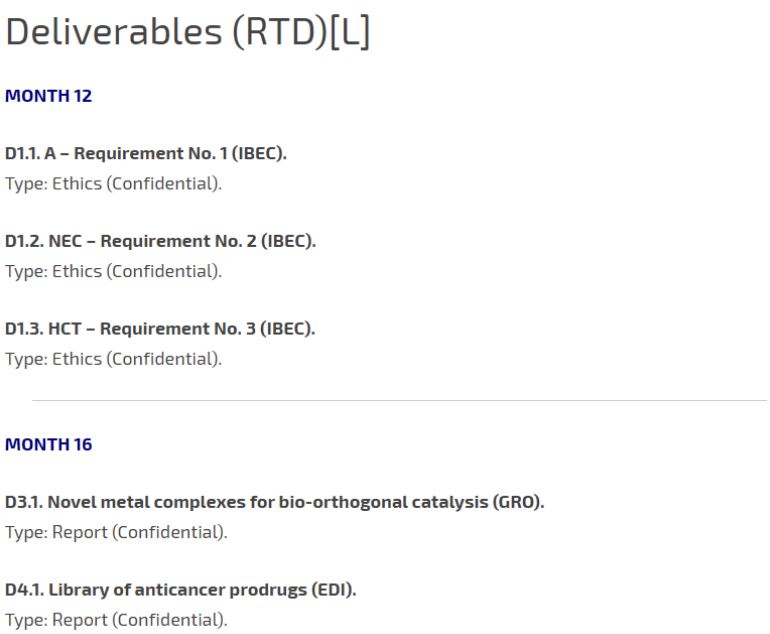
Restricted access to the THERACAT Intranet can be reached by following the link: https://theracat.eu/wp-login.php

All principal investigators, ESRs and main management persons of each host institution have (or will have) access to the project intranet. The project manager at IBEC is responsible to feed the web with the inputs of all beneficiaries and partners.

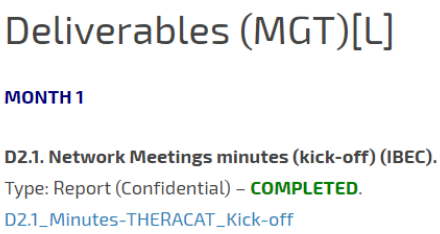
The Intranet area of the webpage has been divided into 5 different sections containing information related to the project in aspects such as 1) deliverables (both related to RTD and MGT), 2) milestones, 3) training, 4) templates and files, and 5) meetings.

1) Deliverables (both related to RTD and MGT).

All deliverables have been included, being organized by month of delivery to better identify the work to be done.

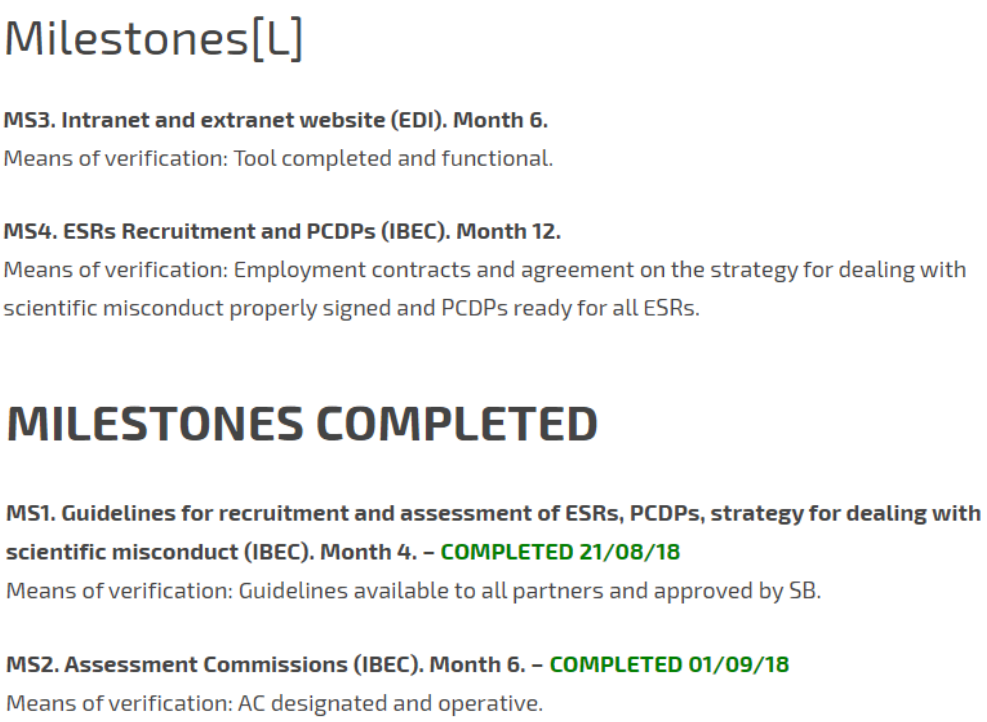


Those deliverables finished and already submitted to the EC are labelled as "COMPLETED" with access to the corresponding pdf file (if applicable). See an example below.



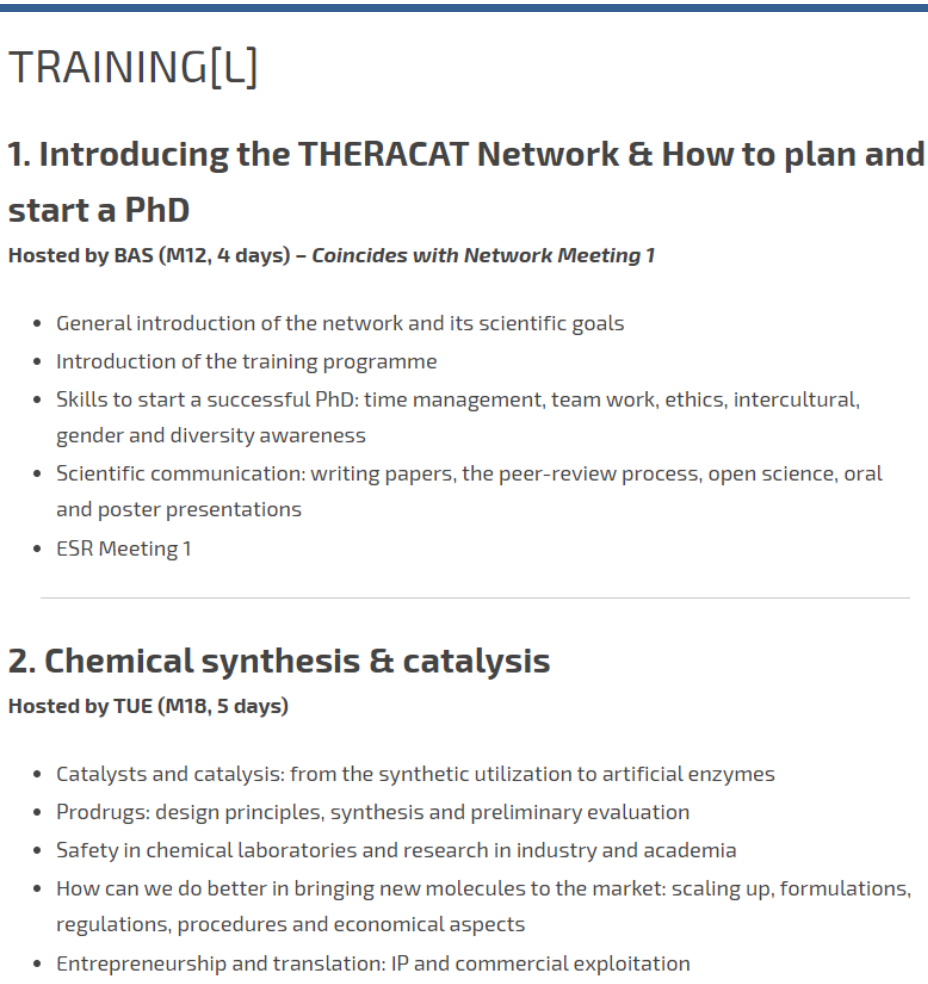
2) Milestones.

All milestones have been included being organized by month of delivery to better identify the work to be done. As for deliverables, those milestones accomplished are labelled as "COMPLETED".



3) Training.

All training workshops have been included being organized by month of execution to better identify the work to be done. All documents, presentations, etc. related to each event will be included here to be available for the consortium.



TRAINING[L]

1. Introducing the THERACAT Network & How to plan and start a PhD

Hosted by BAS (M12, 4 days) – *Coincides with Network Meeting 1*

- General introduction of the network and its scientific goals
- Introduction of the training programme
- Skills to start a successful PhD: time management, team work, ethics, intercultural, gender and diversity awareness
- Scientific communication: writing papers, the peer-review process, open science, oral and poster presentations
- ESR Meeting 1

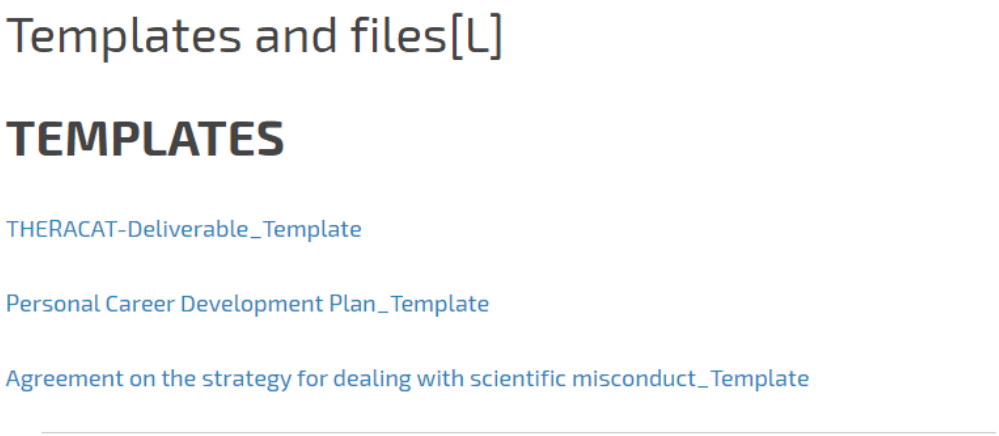
2. Chemical synthesis & catalysis

Hosted by TUE (M18, 5 days)

- Catalysts and catalysis: from the synthetic utilization to artificial enzymes
- Prodrugs: design principles, synthesis and preliminary evaluation
- Safety in chemical laboratories and research in industry and academia
- How can we do better in bringing new molecules to the market: scaling up, formulations, regulations, procedures and economical aspects
- Entrepreneurship and translation: IP and commercial exploitation

4) Templates and files.

In this section all templates and relevant documents related to the project are available to be downloaded by the project partners (e.g. proposal, grant agreement, consortium agreement, deliverables word template, etc.).



Templates and files[L]

TEMPLATES

THERACAT-Deliverable_Template

Personal Career Development Plan_Template

Agreement on the strategy for dealing with scientific misconduct_Template

FILES

Official Documents

Proposal (Sealed)

Declaration of Honour

Grant Agreement

Grant Agreement Data Sheet

Consortium Agreement

OTHER

THERACAT Strategy to promote research integrity and for dealing with scientific misconduct: THERACAT Strategy for dealing with scientific misconduct

Information note for Marie Skłodowska-Curie Fellows in Innovative Training Networks: Infopackage_fellows

EU emblems: http://europa.eu/about-eu/basic-information/symbols/flag/

Text to include in publications and dissemination activities: This work has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Sklodowska-Curie grant agreement No. 765497 (THERACAT).

5) Meetings.

Here, there will be a section for each meeting (e.g. project meeting, info days, meeting with the EC, etc.). Find below and example for the kick-off meeting including the meeting agenda, minutes and presentations from all partners.

Network meeting 1 (Kick-off Meeting) – 31/05/2018[L]

THERACAT Kick-Off Meeting was held at IBEC with the participation of all beneficiaries.

RELATED DOCUMENTS

Agenda – THERACAT Kick-Off Meeting

How to get to IBEC

Meeting Minutes – THERACAT Kick-Off Meeting

THERACAT_Management

1_IBEC_Kick-off meeting

2_TUE_Kick-off meeting

3_GRO_Kick-off meeting

4_BAS_Kick-off meeting

5_EDI_Kick-off meeting

6_TAU_Amir_Kick-off meeting

6_TAU_Satchi-Fainaro_Kick-off meeting

7_TEVA_Kick-off meeting

8_TAG_Kick-off meeting

9_BGX_Kick-off meeting

2. References

https://theracat.eu/