

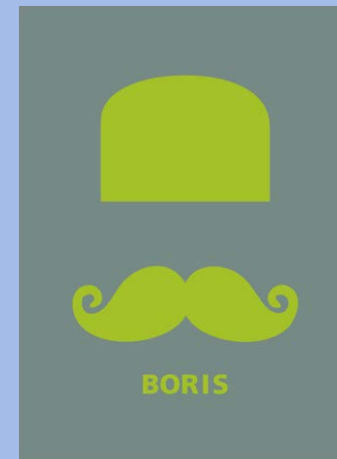
# New implementations of and inquiries in features for BORIS

u<sup>b</sup>

<sup>b</sup>  
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BORIS – Bern Open Repository and Information System

Dirk Verdicchio, Markus Müller  
Bern University Library



June 11, 2015 | Open Repositories 2015 | Indianapolis

- Intro
  - University of Bern, BORIS & how we get feedback
- New developments
  - ① Watermarks on downloaded documents
  - ② Eprints displays local time instead of UTC
  - ③ Change notification by email
  - ④ Using Sherpa/Romeo API to validate copyright
- Appendix
  - BORIS @ GitHub



## BORIS @ GitHub



### ① Watermarks on downloaded documents

- Components changed
  - `../archives/BORIS/cfg/cfg.d/watermark.pl`
  - `../archives/BORIS/cfg/lang/en/phrases/watermark.xml`
  - `../archives/BORIS/cfg/plugins/EPrints/Plugin/Convert/AddWatermark.pm`
- GitHub Refs
  - <https://github.com/UB-Bern/boris/commit/c4bac04ae0ba1b2a4f867e34294e2cd72b6b57e1>
  - <https://github.com/UB-Bern/boris/commit/b9858d6708475f2b3b0c3abdd5f226f8405ebd31>
  - <https://github.com/UB-Bern/boris/commit/5324683459151a6d507a1902729207cf47c7966d>
  - <https://github.com/UB-Bern/boris/commit/126327f7964fb12d72a78f9c210ac1c2cbfa77a3>
  - <https://github.com/UB-Bern/boris/commit/8a989c65801ee23dd89779bff67191f43c6dfd0a>
  - <https://github.com/UB-Bern/boris/commit/8611e3bdb899cf38a3ab1d5ee1d52d899b8ed72c>
  - <https://github.com/UB-Bern/boris/commit/5ee6ead445a9a6a23754cc6df7535ef2ba1f60f9>



- Students: 17'428
- Faculty: 2'413 FTE
- Publications/year:  $\approx$  6'500



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# BORIS – Bern Open Repository and Information System

- 2012: Open Access Policy
- Nov. 2013: Institutional Repository
  - Hosted by the university's IT services
  - Software: EPrints
  - Customization made by Eprints Services
- Aims
  - Open Access repository
  - Platform for submitting publication data to research evaluation
  - Providing information about research projects (future)

The screenshot displays the BORIS website interface. At the top, there are language options (Deutsch | English | Français) and a login status for Markus Müller. The main navigation bar includes Home, Manage deposits, Manage records, Profile, Alerts, Review, Admin, ORCID, and Statistics. A search bar is located at the top right. On the left, there is a 'Browse by' menu with categories like Institute, Contributors, and Year. The central area features a 'Visualisation' section with a circular sunburst chart. To the right, there is a 'News' section with tweets from BORIS UniBern and Christian Althaus. Below the news, there is a 'Latest Additions' section listing recent publications with their titles and authors. At the bottom, there is a 'Top 5 Downloads' table.

Rank	Title	Downloads
1.	Die Hauptstadt existiert nicht	1,477
2.	Investigation of the Network Construction Behaviour on Social Networking Sites	1,162
3.	Investigating the value of privacy on online social networks: conjoint analysis	679
4.	Injuries to permanent teeth. Part 3: Therapy of root fractures	653
5.	Multimedia Human-Centric Networking: Concepts, Technologies and Trends	577



- Library
  - Nicole Bögli
  - Markus Müller
  - Regula Oppliger
  - Regula Schatzmann
  - Désirée Stalder
  - Andrea Stettler
  - Jan Stutzmann
  - Dirk Verdicchio
- IT services
  - Christian Friedli
  - Bettina Schmidt
- External partner
  - Peter West (Digital Repository Services)

- Courses:
  - Regular course offer for submitter and for editors
  - «Inhouse» courses for institutes or research groups
- Ticketing system
- Mailing list for editors
- BORIS-Team is working close together with the Center for Development and Environment (CDE) and the Institute of Social and Preventive Medicine (ISPM)
- BORIS-Team is working close together with Vice-Rectorate Research and the Dean's Office of the Medical Faculty which are responsible for research evaluation
- Workflow allows contact to different user groups and stakeholders



# Regular contact to stakeholders

<b>Insert/import metadata &amp; full text</b>	<b>Control metadata</b>	<b>Publication rights, embargos, licenses</b>	<b>Inform researchers</b>	<b>Check completeness of publications</b>	<b>Evaluation</b>
<b>Submitter (Researchers/ Delegates)</b>	<b>Editors (Librarians, Delegates)</b>	<b>BORIS-Team/ Researchers</b>	<b>Q-Assistants</b>	<b>Researchers</b>	<b>Vice-Rectorate Research &amp; Dean's office of the med. faculty</b>





# ① Watermarks on downloaded documents

- Why Watermarks?
  - Information about the origin of download
  - No hindrance for indexing (compared to cover sheets)<sup>1</sup>
  - No waste of paper

(1) Tonkin, Emma I., Stephanie Taylor, and Gregory J. L. Tourte. "Cover sheets considered harmful." In Mining the Digital Information Networks, 17th International Conference on Electronic Publishing. ELPUB. Karlskrona, Sweden: IOS Press BV, 2013. <http://ebooks.iospress.nl/publication/33459>

# ① Watermarks on downloaded documents

u<sup>b</sup>

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- Component generates a PDF with watermark added
- Original document is not altered
- Download item is cached; regenerate when date changes

Letter  
pubs.acs.org/OrgLet

## 2'-Fluorination of Tricyclo-DNA Controls Furanose Conformation and Increases RNA Affinity

Alexander M. Albrecht, Michal Medvecký, and Christian J. Leumann\*

Department of Chemistry and Biochemistry, University of Bern, Freiestrasse 3, CH-3012 Bern, Switzerland

Supporting Information

ABSTRACT: The synthesis of 2'-fluoro tricyclo-DNA pyrimidines with fluorine in the ribo-configuration and incorporation into oligodeoxynucleotides was accomplished like the parent tc-T nucleoside, the 2'-F-RNA-tc-T pairs in the 2'-exo conformation in the crystal. Surprisingly, F-RNA-tc-T was found to stabilize duplexes with DNA by +2 to +4 °C in  $T_m$ /mod. F-RNA-tc-nucleosides mix the DNA backbone and thus open up possibilities of mixed (DNA/DNA) backbone oligonucleotides for therapeutic applications.

Tricyclo-DNA oligonucleotides bind to cellular RNA obeying Watson-Crick rules, thereby controlling RNA function. From all the modifications that have been synthesized and characterized over the last three decades, the class of rationally restricted oligonucleotide analogues under investigation shows the highest increase in affinity to target RNA and, in general, also shows a high degree of biocompatibility. The best characterized examples for which in vivo data are available are the locked nucleic acid (LNA),<sup>1-7</sup> the peptide nucleic acid (PNA),<sup>8-11</sup> and tricyclo(tc)-DNA.<sup>12-18</sup> tc-DNA has recently been shown to exhibit very strong binding properties in the mdx and dko mouse models in all relevant tissues.<sup>19</sup>

Fluorinated oligonucleotide analogues such as the 2'-deoxy-2'-fluorino nucleic acids (F-ANA),<sup>19-21</sup> the 2'-deoxy-2'-F-RNA,<sup>22</sup> the fluorohexitol nucleic acids (F-HNA) and other modifications<sup>23-28</sup> have recently attracted interest due to the electrostatic impact that the fluorine substituent exerts on the furanose conformation, leading to stronger RNA binding. In addition, unique medicinal chemical properties arising from the hydrophobic properties of organofluorine compounds are of interest.

A striking example, highlighting the differential binding of fluorinated oligonucleotides to proteins, is the formation of an ILF 2/3 complex by a fluorinated antisense oligonucleotide to RNA transcripts in cellulo and in vivo, leading to alternative splicing patterns that are not observed with the corresponding non-fluorinated oligonucleotides.<sup>29</sup> Furthermore, the magnetic properties of <sup>19</sup>F offer additional possibilities for structure determination as well as in vivo imaging.

We have now demonstrated that a fluorine substituent in the 2'-position of tc-DNA might exert additional steric and stereoelectronic control, driving the furanose unit within the tricyclic sugar scaffold toward the N-type conformation. From this, higher affinity to RNA can be expected. In addition, fluorine substitution may reinforce the favorable characteristics of tc-DNA such as high biostability and broad tissue distribution and could thus improve the therapeutic potential of tc-DNA. Here we present the synthesis and structural properties of the sugar component of F-tc-RNA and F-tc-ANA as well as two novel tc-nucleoside analogues (F-RNA-tc-T and F-RNA-tc-C) and the DNA and RNA binding properties of correspondingly modified oligodeoxynucleotides.

### Synthesis of Monomers

A reasonable plan for the synthesis of the fluorinated tricyclo sugar involved the electrophilic fluorination of a suitably protected enol ether that should be easily accessible from the already known methyl glycoside **1** (Scheme 1).<sup>30</sup> From this procedure, we expected to have access to both sugars containing fluorine in the 2'-ribo and arabino configuration. TMSOTf-induced elimination of the methoxy group in **1** under

### Scheme 1. Synthesis of the F-ANA- and F-RNA tc-Sugar Units 5

Received: March 5, 2015  
Published: April 2, 2015

ACS Publications © 2015 American Chemical Society 1950  
DOI: 10.1021/acs.orglett.5b00962  
Org. Lett. 2015, 17, 1950–1953

## ② Eprints displays local time instead of UTC

- Eprints time zone UTC vs local time zone CET
- Problems:
  - Makes it more difficult to trace and communicate changes
  - Users are irritated and think the repository does not work properly
- Solution:
  - Display local time



# ② Eprints displays local time instead of UTC

Deutsch | English | Français Login

**BORIS**  
Bern Open Repository

Home

**A Rational Approach for the Self-Assembly of Molecular Building Blocks in the Field of Molecule-Based Magnetism (eprint 68535 r13)**

This item is in the repository with the URL <http://boris.unibe.ch/68535/>

Retire Item | Move to Review | Remove Item

Details | Actions | History | Issues

Displaying results 1 to 10 of 15. Show 10, 25 or 100 results per page.  
1 | 2 | Next

**Moved from Review to Repository by Nicole Bögli at 20 May 2015 10:30:12 CEST**

A Rational Approach for the Self-Assembly of Molecular Building Blocks in the Field of Molecule-Based Magnetism (eprint 68535 r13)

**Modified by Nicole Bögli at 20 May 2015 10:30:12 CEST**

Before	After
<datestamp>2015-05-20 08:29:45</datestamp>	<datestamp>2015-05-20 08:30:12</datestamp>
<place_of_pub>Chichester</place_of_pub>	<place_of_pub>Chichester</place_of_pub>
<rev_number>12</rev_number>	<rev_number>13</rev_number>
<lastmod>2015-05-20 08:29:45</lastmod>	<lastmod>2015-05-20 08:30:12</lastmod>
<eprint_status>buffer</eprint_status>	<eprint_status>archive</eprint_status>
<status_changed>2015-05-02 18:38:53</status_changed>	<status_changed>2015-05-20 08:30:12</status_changed>

**Item Type:**   
**Division/Insti**   
**UNiBE Contrib**   
**Subjects:**   
**ISBN:**   
**Series:**   
**Publisher:**   
**Language:** English   
**Submitter:** Silvio Decurtins   
**Date Deposited:** 20 May 2015 10:30   
**Last Modified:** 20 May 2015 10:30   
**Publisher DOI:** 10.1002/0470868015.ch7   
**URI:** <http://boris.unibe.ch/id/eprint/68535>

## ② Eprints displays local time instead of UTC

- Approach: <https://github.com/eprints/eprints/issues/194>



jploski commented on 21 Jan 2014

Currently the "Last modification" date and other dates are displayed as they are stored in the database - in UTC time zone. It would be more sensible to render them in server's local time zone instead (our users complained about it).

`../perl_lib/EPrints/Time.pm`

Looking at documentation of EPrints::Time::render\_date, it seems that it was intended so, but the implementation doesn't match spec. I suggest the following patch:

```
--- eprints-3.3.12-src/perl_lib/EPrints/Time.pm 2013-07-30 14:07:46.000000000 +0200
+++ eprints/perl_lib/EPrints/Time.pm      2014-01-21 22:35:04.000000000 +0100
@@ -419,6 +419,9 @@
     return $session->html_phrase( "lib/utls:date_unspecified" );
 }

+ # Convert UTC to local time zone, trim result to original resolution:
+ @l = @ {[ local_datetime(datetime_utc(@l)) ]}[0..$#l];
+
 my( $year, $mon, $day, $hour, $min, $sec ) = @l;

 # 1999
```

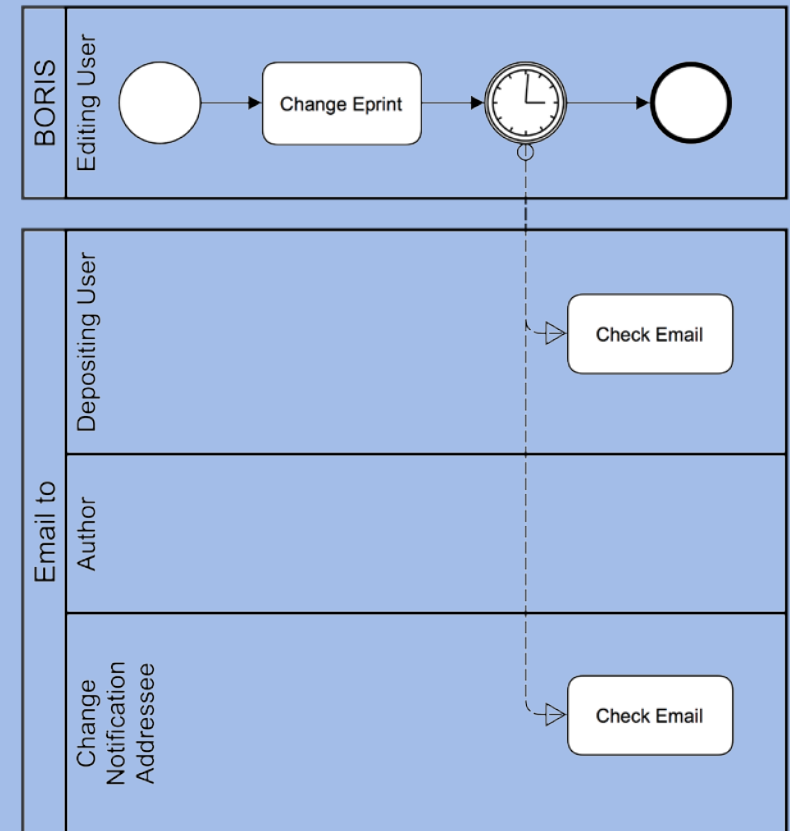
### ③ Change notification by email

- Problem
  - Only creators can make changes to items in the live archive
  - Creators who are not depositors cannot make changes to their items
  - Since the items in the live archive are basis for research evaluation we need to know about any modifications made in the live archive
- Solution
  1. Change ownership settings: Every contributor identified as member of the University is allowed to make changes
  2. Implement a notification system that informs the original depositor and the BORIS team about modifications in the live archive



### ③ Change notification by email

- Requirements (excerpt)
  - The system alerts the depositing user by Email on changes to an item while being in «Live Archive»
  - The system checks for changes at regular intervals
  - Authors being UniBE affiliates must be able to make changes to their contributions even when the item was submitted by some other person



# ③ Change notification by email

```
$. /report_status_change BORIS --send_report --day
```

To further addressees:

To the depositing user:

This is an automatically generated change notification from BORIS

- Item: Test IR-265
- Item URL: <http://boris-dev.unibe.ch/1292/>
- Item type: Journal Article
- Date deposited: 30 Oct 2014 09:25
- Depositing user: Markus Müller
- DOI:
- PubMed ID:
- official URL
- related URL
- Date of modification: 30 Oct 2014 10:14
- Modifications made by:
  - Markus Müller
- Track modifications: [History](#)

Modified fields:

Item Status, Last Status Change, Metadata checked, Language, Item ID, Depositing User, Revision, Directory, Full Text Status, Item Type, Fulltext checked, Metadata Visibility

For questions regarding this message please contact the BORIS Team ( [boris@ub.unibe.ch](mailto:boris@ub.unibe.ch) ).

BORIS  
<http://boris-dev.unibe.ch/>  
Contact us at [boris@ub.unibe.ch](mailto:boris@ub.unibe.ch)

UB\_TICKET\_BORIS

30. Oktober 2014 11:06

An: UB\_TICKET\_BORIS, Müller Markus  
BORIS: change notification summary

This is an automatically generated change notification summary from BORIS

The following items were modified:

<http://boris-dev.unibe.ch/1292/>

- Item: Test IR-265
- Item URL: <http://boris-dev.unibe.ch/1292/>
- Item type: Journal Article
- Date deposited: 30 Oct 2014 09:25
- Depositing user: Markus Müller
- DOI:
- PubMed ID:
- official URL
- related URL
- Date of modification: 30 Oct 2014 09:30
- Modifications made by:
  - Markus Müller
- Track modifications: [History](#)

Modified fields:

Item Status, Last Status Change, Metadata checked, Language, Item ID, Depositing User, Revision, Directory, Full Text Status, Item Type, Fulltext checked, Metadata Visibility

For questions regarding this message please contact the BORIS Team ( [boris@ub.unibe.ch](mailto:boris@ub.unibe.ch) ).

BORIS  
<http://boris-dev.unibe.ch/>  
Contact us at [boris@ub.unibe.ch](mailto:boris@ub.unibe.ch)



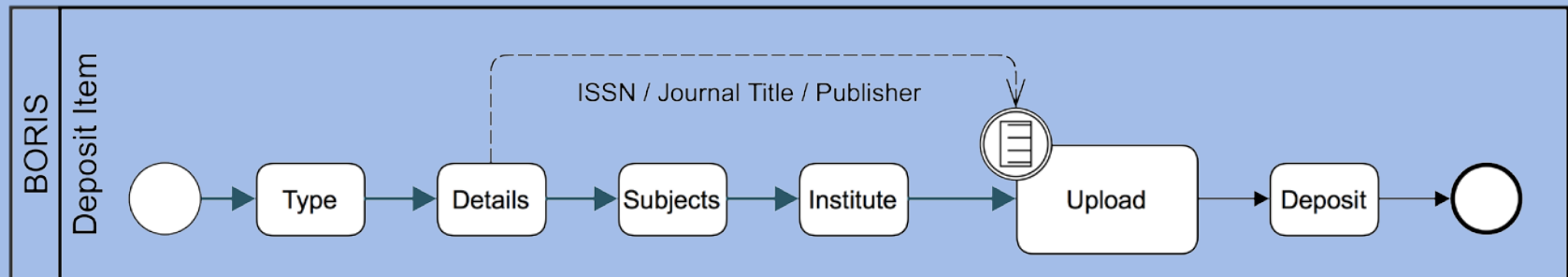
## ④ Using Sherpa/Romeo API to validate copyright

- Starting point
  - University's policy mandates upload of full texts
  - Obligation to check compliance with publisher policies
- Intention
  - Simplify and accelerate the process of reviewing the self archiving policies
  - Convincing researchers to upload their texts



## ④ Using Sherpa/Romeo API to validate copyright

- Approach
  - Lookup for publisher's policies through Sherpa/Romeo API when uploading full text by depositing user
  - Query by ISSN / Journal Title / Publisher



- Experience
  - Plugin works very well
  - Depositing users felt unable to cope with the setting
- Outcome
  - Plugin is a valuable aid to repository team for validation

# ④ Using Sherpa/Romeo API to validate copyright

★ <b>Journal Title:</b>	Science of computer programming
<b>Journal Title Abbreviated:</b>	SCI COMPUT PROGRAM
<b>ISSN:</b>	0167-6423
<b>Publisher:</b>	Elsevier

### Sherpa Romeo Lookup

Information from **SHERPA RoMEO**

**Data refers to: The Journal**  
Matched journal: Current title (Science of computer programming) does not match Sherpa Romeo title (Science of Computer Programming) or it is not specified  
Matched ISSN: 0167-6423  
Matched Pub: Elsevier  
RoMEO: This is a RoMEO green journal

**Author's Pre-print:** ✓ author can archive pre-print (ie pre-refereeing)  
**Restrictions:**  
**Author's Post-print:** ✓ author can archive post-print (ie final draft post-refereeing)  
**Restrictions:**  
**Publisher's Version/PDF:** ✗ author cannot archive publisher's version/PDF  
**Restrictions:**  
Authors pre-print on any website, including arXiv and RePEc  
Author's post-print on author's personal website immediately  
Author's post-print on open access repository after an embargo period of between <num>12</num> <period units="month">months</period> and <num>48</num> <period units="month">months</period>  
Permitted deposit due to Funding Body, Institutional and Governmental policy or mandate, may be required to comply with embargo periods of 12 months to 48 months  
Author's post-print may be used to update arXiv and RepEC  
Publisher's version/PDF cannot be used  
Must link to publisher version with DOI  
Author's post-print must be released with a Creative Commons Attribution Non-Commercial No Derivatives License  
Publisher last reviewed on 03/06/2015

These summaries are for the journal's *default* policies, and changes or exceptions can often be negotiated by authors.  
*All information is correct to the best of our knowledge but should not be relied upon for legal advice.*

**RoMEO Colour**  
Green Can archive pre-print and post-print or publisher's version/PDF  
Blue Can archive post-print (ie final draft post-refereeing) or publisher's version/PDF  
Yellow Can archive pre-print (ie pre-refereeing)  
White Archiving not formally supported  
[More on colours and restrictions](#)

or [View all publishers](#)



# Aknowledgements

*u<sup>b</sup>*

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<sup>b</sup>  
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Peter J. West

Digital Repository Services Ltd

[pjw@repositoryservices.co.uk](mailto:pjw@repositoryservices.co.uk)

<http://repositoryservices.co.uk/index.html>



# Thank you!

*u<sup>b</sup>*

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<sup>b</sup>  
UNIVERSITÄT  
BERN





# ① Watermarks on downloaded documents

- Module used
  - PDF-API2-2.019
- Components changed
  - ../archives/BORIS/cfg/cfg.d/watermark.pl
  - ../archives/BORIS/cfg/lang/en/phrases/watermark.xml
  - ../archives/BORIS/cfg/plugins/EPrints/Plugin/Convert/AddWatermark.pm
- GitHub Refs
  - <https://github.com/UB-Bern/boris/commit/c4bac04ae0ba1b2a4f867e34294e2cd72b6b57e1>
  - <https://github.com/UB-Bern/boris/commit/b9858d6708475f2b3b0c3abdd5f226f8405ebd31>
  - <https://github.com/UB-Bern/boris/commit/5324683459151a6d507a1902729207cf47c7966d>
  - <https://github.com/UB-Bern/boris/commit/126327f7964fb12d72a78f9c210ac1c2cbfa77a3>
  - <https://github.com/UB-Bern/boris/commit/8a989c65801ee23dd89779bff67191f43c6dfd0a>
  - <https://github.com/UB-Bern/boris/commit/8611e3bdb899cf38a3ab1d5ee1d52d899b8ed72c>
  - <https://github.com/UB-Bern/boris/commit/5ee6ead445a9a6a23754cc6df7535ef2ba1f60f9>



## ② Eprints displays local time instead of UTC

- Components changed
  - `../perl_lib/EPrints/Time.pm`
- GitHub Refs
  - <https://github.com/UB-Bern/boris/commit/39684759110f1528bf8029267e99400772fe29af>





## ③ Change notification by email

- Components changed
  - `../archives/BORIS/bin/report_status_change`
  - `../archives/BORIS/cfg/cfg.d/report_status_change.pl`
  - `../archives/BORIS/cfg/lang/en/phrases/report_status_change.xml`
  - `../archives/BORIS/cfg/cfg.d/does_user_own_eprint.pl`
- GitHub Refs
  - <https://github.com/UB-Bern/boris/commit/8ec472fa9ff14b88bda03717b2634ae502d4cd0f>
  - <https://github.com/UB-Bern/boris/commit/53f4973b0b28d39907bb9d52a5a2239f5b8e7642>
  - <https://github.com/UB-Bern/boris/commit/a7bc7c7a447f4846fa87769cb81cd3e969cc446f>
  - <https://github.com/UB-Bern/boris/commit/db6b0827be1569585e7ab5f3be38f58fd52753a6>
  - <https://github.com/UB-Bern/boris/commit/c342a726a30a749f33d59c9ef299e2ca45901cd4>
  - <https://github.com/UB-Bern/boris/commit/b6f6631810f47bdfe2f12b357b6639a572560c4d>
  - <https://github.com/UB-Bern/boris/commit/2a989bd3e5fbb533e01820c5d3a725c9d08bf62a>
  - <https://github.com/UB-Bern/boris/commit/4b1c7272b2c5f090509586883ff7810483287583>
  - <https://github.com/UB-Bern/boris/commit/51825fa58247d88c6ef442159e62e78606191f8c>



## ④ Using Sherpa/Romeo API to validate copyright

- Components changed
  - ../archives/BORIS/cfg/cfg.d/eprint\_fields.pl
  - ../archives/BORIS/cfg/cfg.d/sherpa\_romeo.pl
  - ../archives/BORIS/cfg/lang/en/phrases/sherpa.xml
  - ../archives/BORIS/cfg/plugins/EPrints/Plugin/InputForm/Component/Field/Modal/SherpaRomeo.p  
m
  - ../archives/BORIS/cfg/static/style/auto/sherpa.css
  - ../archives/BORIS/cfg/workflows/eprint/default.xml
  - ../archives/BORIS/cgi/sherpa\_romeo\_lookup
- GitHub Refs
  - <https://github.com/UB-Bern/boris/commit/abd45595877eee3b58acd201ae90fb0aaef1b225>

