



Experiment Report Form

The double page inside this form is to be filled in by all users or groups of users who have had access to beam time for measurements at the ESRF.

Once completed, the report should be submitted electronically to the User Office via the User Portal:

<https://www.esrf.fr/misapps/SMISWebClient/protected/welcome.do>

Reports supporting requests for additional beam time

Reports can be submitted independently of new proposals – it is necessary simply to indicate the number of the report(s) supporting a new proposal on the proposal form.

The Review Committees reserve the right to reject new proposals from groups who have not reported on the use of beam time allocated previously.

Reports on experiments relating to long term projects

Proposers awarded beam time for a long term project are required to submit an interim report at the end of each year, irrespective of the number of shifts of beam time they have used.

Published papers

All users must give proper credit to ESRF staff members and proper mention to ESRF facilities which were essential for the results described in any ensuing publication. Further, they are obliged to send to the Joint ESRF/ ILL library the complete reference and the abstract of all papers appearing in print, and resulting from the use of the ESRF.

Should you wish to make more general comments on the experiment, please note them on the User Evaluation Form, and send both the Report and the Evaluation Form to the User Office.

Deadlines for submission of Experimental Reports

- 1st March for experiments carried out up until June of the previous year;
- 1st September for experiments carried out up until January of the same year.

Instructions for preparing your Report

- fill in a separate form for each project or series of measurements.
- type your report, in English.
- include the reference number of the proposal to which the report refers.
- make sure that the text, tables and figures fit into the space available.
- if your work is published or is in press, you may prefer to paste in the abstract, and add full reference details. If the abstract is in a language other than English, please include an English translation.



	Experiment title: Size-dependent Pd Hydride Phase Diagrams	Experiment number: MA- 2930
Beamline: BM01B	Date of experiment: from: 13.04.2016 to: 19.04.2016	Date of report: 28.02.2018
Shifts: 18	Local contact(s): Michela Brunelli (email: brunelli@esrf.fr)	<i>Received at ESRF:</i>
Names and affiliations of applicants (* indicates experimentalists): Aram Bugaev ^{*1,2} , Alexander Guda ^{*1} , Budnyk Andriy ^{*1} , Kirill Lomachenko ^{*1} , Bjoern Tore Loenstad Bleken ³ , Koen Bossers ³ , Sigurd Oien ³ , Alexander Soldatov ¹ , Carlo Lamberti ^{*1,2} ¹ Southern Federal University, Zorge street 5, 344090 Rostov-on-Don, Russia ² Department of Chemistry, University of Turin, Via P. Giuria 7, 10125 Turin, Italy ³ Department of Chemistry, University of Oslo, Norway		

Report:

The results obtained during this beamtime have been published in the 4 research papers:

- 1) V.V. Butova, A.P. Budnyk, A.A. Guda, K.A. Lomachenko, A.L. Bugaev, A.V. Soldatov, S.M. Chavan, S. Oien-Odegaard, U. Olsbye, K.P. Lillerud, C. Atzori, S. Bordiga, C. Lamberti "Modulator effect in UiO-66-NDC (1, 4-naphthalenedicarboxylic acid) synthesis and comparison with UiO-67-NDC isorecticular MOFs" *Crystal Growth & Design* **2017** 17 (10) 5422-5431 (**Journal Cover**)
DOI: 10.1021/acs.cgd.7b00892
- 2) L. Braglia, E. Borfecchia, A.L. Bugaev, A.V. Soldatov, S. Øien-Ødegaard, U. Olsbye, K. P. Lillerud, K. A. Lomachenko, G. Agostini, M. Manzoli, C. Lamberti "The duality of UiO-67-Pt MOFs: connecting treatment conditions and encapsulated Pt species by operando XAS" *Physical Chemistry Chemical Physics* **2017** 19 27489-27507
DOI: 10.1039/C7CP05185A
- 3) A.L. Bugaev, A.A. Guda, K.A. Lomachenko, E.G. Kamyshova, M.A Soldatov, G. Kaur, S. Øien-Ødegaard, L. Braglia, A. Lazzarini, M. Manzoli, S. Bordiga, U. Olsbye, K. Petter Lillerud, A.V Soldatov and C. Lamberti "Operando study of palladium nanoparticles inside UiO-67 MOF for catalytic hydrogenation of hydrocarbons" *Faraday Discussions* **2018** *Accepted Manuscript*
DOI: 10.1039/C7FD00224F
- 4) M.V. Kirichkov, A.A. Guda, A.P. Budnyk, T.A. Lastovina, A.L. Bugaev, V.V. Shapovalov, Yu.V. Rusalev, A.V. Chernyshev, A.V. Soldatov "In situ analysis of the formation steps of gold nanoparticles by oleylamine reduction" *Journal of Structural Chemistry* **2017** 58 (7) 1403–1410 DOI: 10.1134/S0022476617070186