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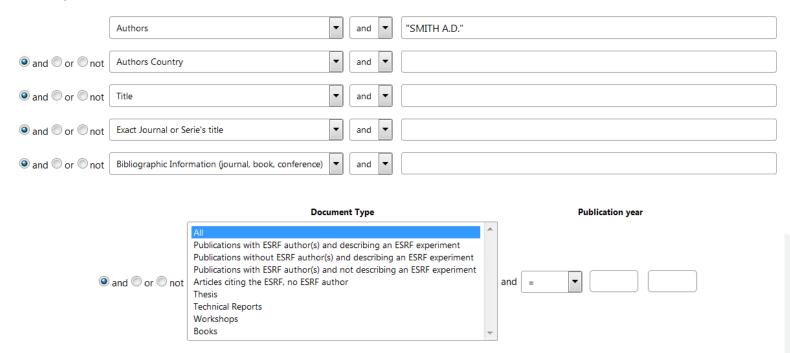




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### The auto-completion is activated for each field:

ESRF publications: Complex search



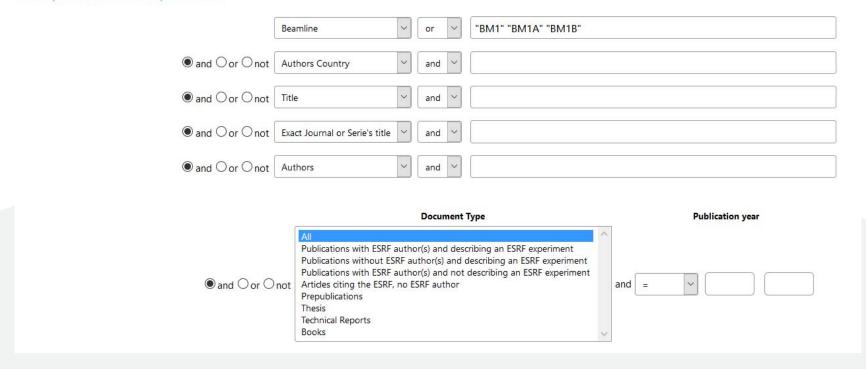




### **Complex search**

You can search for several beamlines at once:

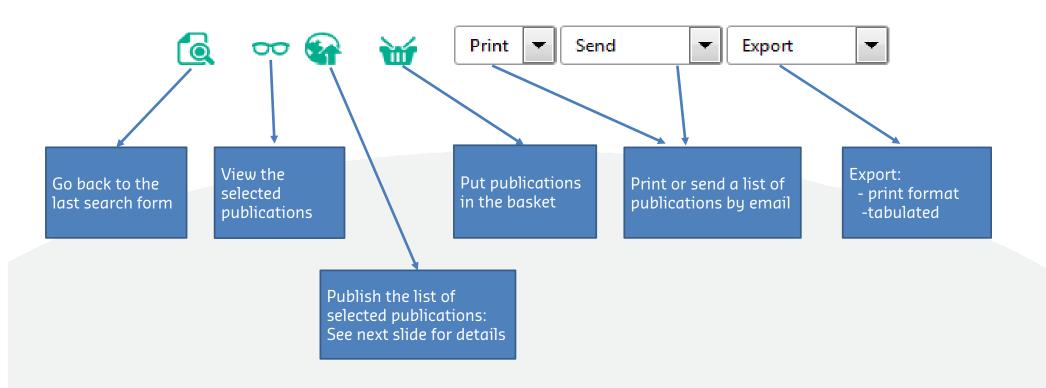
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When the list of results is displayed, you can:







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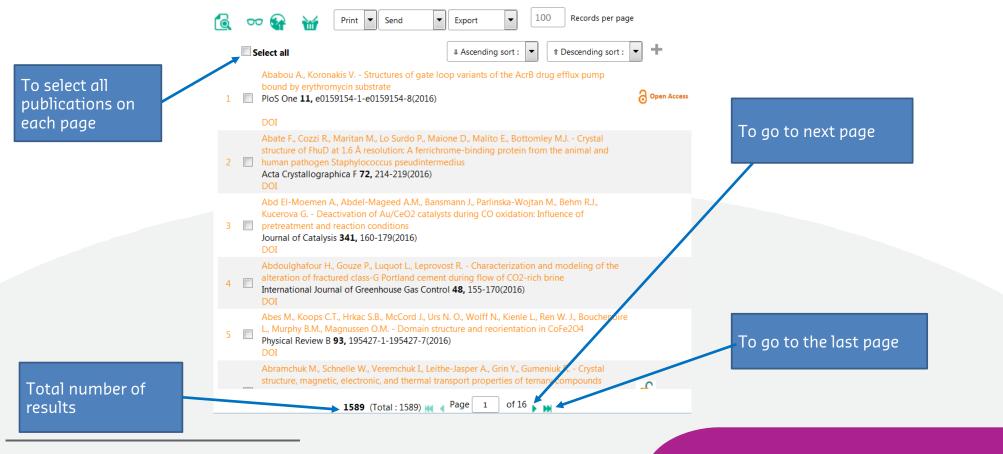
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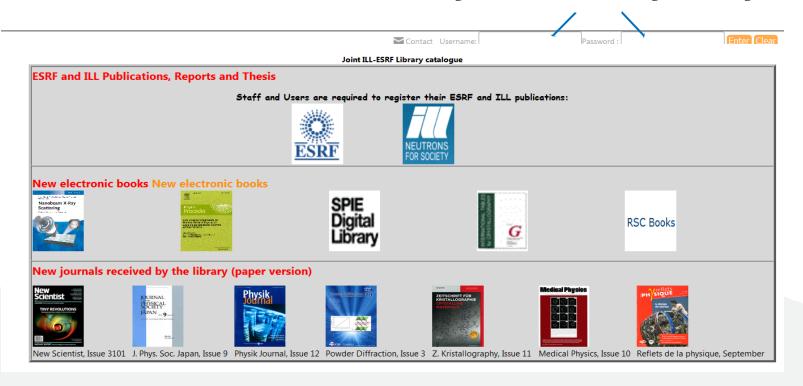
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By selecting publications and clicking on the glasses icon (see previous slide), you get:

Beamline:

Open Access Agrawal N., Lehtonen S.I., Uusi-Mäkelä M., Jain P., Viitala S., Määttä J.A.E., Kähkönen N., Azizi L., Riihimäki T.A., Kulomaa M.S., Johnson M.S., Hytönen V.P., Airenne T.T. - Molecular features of steroidbinding antidins and their use for assaying serum progesterone

PloS One 44. e0212339-1-e0212339-27 (2019)

Number ESRF19AG1419

ID30A-3

Web of Science

Articles citing this publication Link on Google Scholar

Facility used: ESRF (Grenoble)

Abstract:

Chicken avidin (Avd) and streptavidin from Streptomyces avidinii are extensively used in bionanotechnology due to their extremely tight binding to biotin (K-d similar to 10(-15) M for chicken Avd). We previously reported engineered Avds known as antidins, which have micro- to nanomolar affinities for steroids, non-natural ligands of Avd. Here, we report the 2.8 angstrom X-ray structure of the sbAvd-2 (1117Y) antidin co-crystallized with progesterone. We describe the creation of new synthetic phage display libraries and report the experimental as well as computational binding analysis of progesterone-binding antidins. We introduce a next-generation antidin with 5 nM binding affinity for progesterone, and demonstrate the use of anti dins for measuring progesterone in serum samples. Our data give insights on how to engineer and alter the binding preferences of Avds and to develop better molecular tools for modern bionanotechnological applications.

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