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Synthesis of N-Benzoyl-2-hydroxybenzamides as Agents Utilized in Treatment of Malaria

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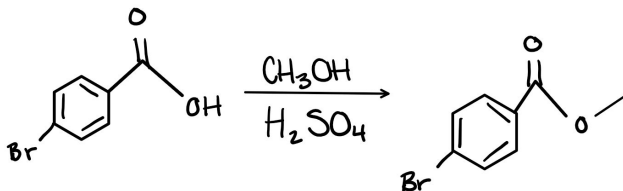
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Synthesis of N-Benzoyl-2-hydroxybenzamides as Agents Utilized in Treatment of

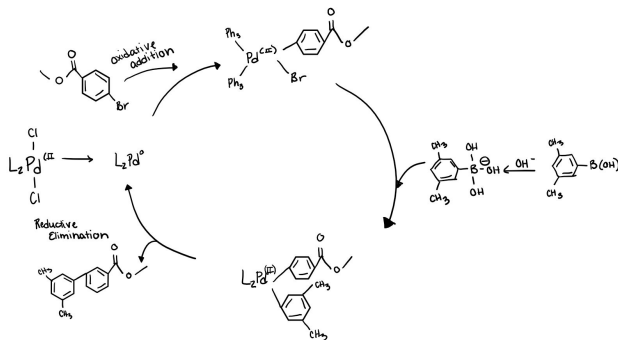
Malaria

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Fischer Esterification



Suzuki Coupling

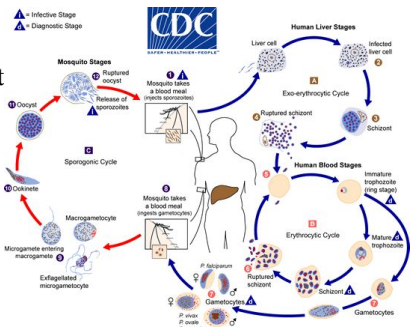


After completion of the first half of this compound, it is clear that its production, if proven an effective treatment for malaria, will be more efficient and widely available. This is largely because of the high yield of the initial reactions (Fischer Esterification and Suzuki Coupling) as well as the ease of purification cutting down on costs, and making the market value for the drug more affordable for the disproportionately affected countries. Once the compound is completed, different R-side chains will be attached and testing will be conducted. This will be accomplished by sending these compounds to Drugs for Neglected Disease (DNDI).

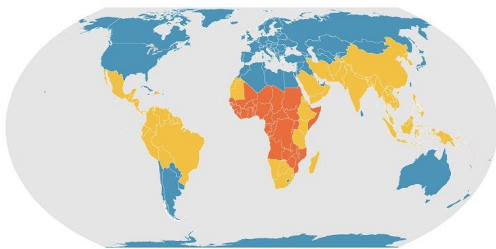
References

- Malaria Diagnosis and Treatment.* (n.d.). Centers for Disease Control. https://www.cdc.gov/malaria/diagnosis_treatment/treatment.html
- Malaria Resources: Doxycycline.* (n.d.). Centers for Disease Control. <https://www.cdc.gov/malaria/resources/pdf/fsp/drugs/doxycycline.pdf>
- Malaria Resources: Hydroxychloroquine.* (n.d.). Centers for Disease Control. <https://www.cdc.gov/malaria/resources/pdf/fsp/drugs/hydroxychloroquine.pdf>
- Stec, J., Huang, Q., Pieroni, M., Kaiser, M., Fomovska, A., Mui, E., Witola, W., Bettis, S., McLeod, R., Brum, R., Witola, W., & Kozikowski, A. P. (2011, February 21). Synthesis, Biological Evaluation, and Structure-Activity Relationships of N-Benzoyl-2-hydroxybenzamides as Agents Active against *P. falciparum* (K1 strain), Trypanosomes, and Leishmania. *Journal of Medicinal Chemistry*.

Malaria is a disease that disproportionately affect several third world countries. It is a life-threatening illness that is transmitted by mosquitoes that act as vesicles for parasites.



The disease is preventable and curable, but according to the world health organization, countries disproportionately affected cannot afford these preventative care measures or have developed resistance to treatments. Doxycycline is the antibiotic most commonly used for preventative measures and Hydroxychloroquine is a common treatment drug, though it has been rendered largely ineffective due to the parasite developing a resistance to the compound.



■ Malaria transmission is not known to occur
■ Malaria transmission occurs in some places
■ Malaria transmission occurs throughout