

## Publication

Antiprotozoal dimeric naphthylisoquinolines, mbandakamines B3 and B4, and related 5,80'-coupled monomeric alkaloids, ikelacongolines A-D, from a Congolese *Ancistrocladus liana*

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From the leaves of a botanically and phytochemically as yet unexplored *Ancistrocladus liana* discovered in the rainforests of the Central region of the Democratic Republic of the Congo in the vicinity of the town of Ikela, six new naphthylisoquinoline alkaloids were isolated, viz., two constitutionally unsymmetric dimers, the mbandakamines B3 (3) and B4 (4), and four related 5,8''-linked monomeric alkaloids, named ikelacongolines A–D (5a, 5b, 6, and 7). The dimers 3 and 4 are structurally unusual quateraryls comprising two 5,8''-coupled monomers linked via a sterically strongly constrained 6'',1''''-connection between their naphthalene units. These compounds contain seven elements of chirality, four stereogenic centers and three consecutive chiral axes. They were identified along with two known related compounds, the mbandakamines A (1) and B2 (2), which had so far only been detected in two *Ancistrocladus* species indigenous to the Northwestern Congo Basin. In addition, five known monomeric alkaloids, previously found in related Central African *Ancistrocladus* species, were isolated from the here investigated Congolese liana, three of them belonging to the subclass of 5,8''-coupled naphthylisoquinoline alkaloids, whereas two compounds exhibited a less frequently occurring 7,8''-biaryl linkage. The stereostructures of the new alkaloids were established by spectroscopic (in particular HRESIMS, 1D and 2D NMR), chemical (oxidative degradation), and chiroptical (electronic circular dichroism) methods. The mbandakamines B3 (3) and B4 (4) displayed pronounced activities in vitro against the malaria parasite *Plasmodium falciparum* and the pathogen of African sleeping sickness, *Trypanosoma brucei rhodesiense*.

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